

national

SAFETY NEWS

SEPTEMBER 1965

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Foille Aerosol Spray (10-oz.).....FA-35241

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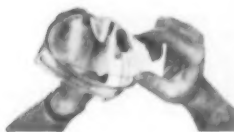
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Even workers wearing glasses say they "never had it so COMFORTABLE!"

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Pliable frame permits wearing for hours in comfort.

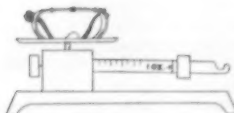


Easy-to-change lens

Replaceable lenses cut cost—no need to replace entire goggle. Lens held firmly in molded groove.

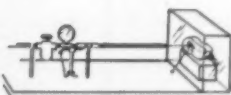
Wearing comfort

Channeled sides of frame give comfortable clearance over spectacle temples.



Light in weight

Can be worn all day without fatigue—encourage continuous protection.



Impact resistance

Pass recognized tests for impact protection as listed in Federal Specification GGG-G-531a, Goggles and Spectacles, all plastic, industrial.

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SAFETY NEWS

Published monthly by National Safety Council

SEPTEMBER, 1955

THE COVER: At Trail, B. C., during a recent month-long safety campaign The Consolidated Mining and Smelting Company of Canada, Limited, released a rocket at 9:30 each evening. A green burst signalled no disabling injury during the previous 24 hours. A red rocket indicated an accident. The rocket was green when this picture was taken. (Photo courtesy Cominco Magazine)

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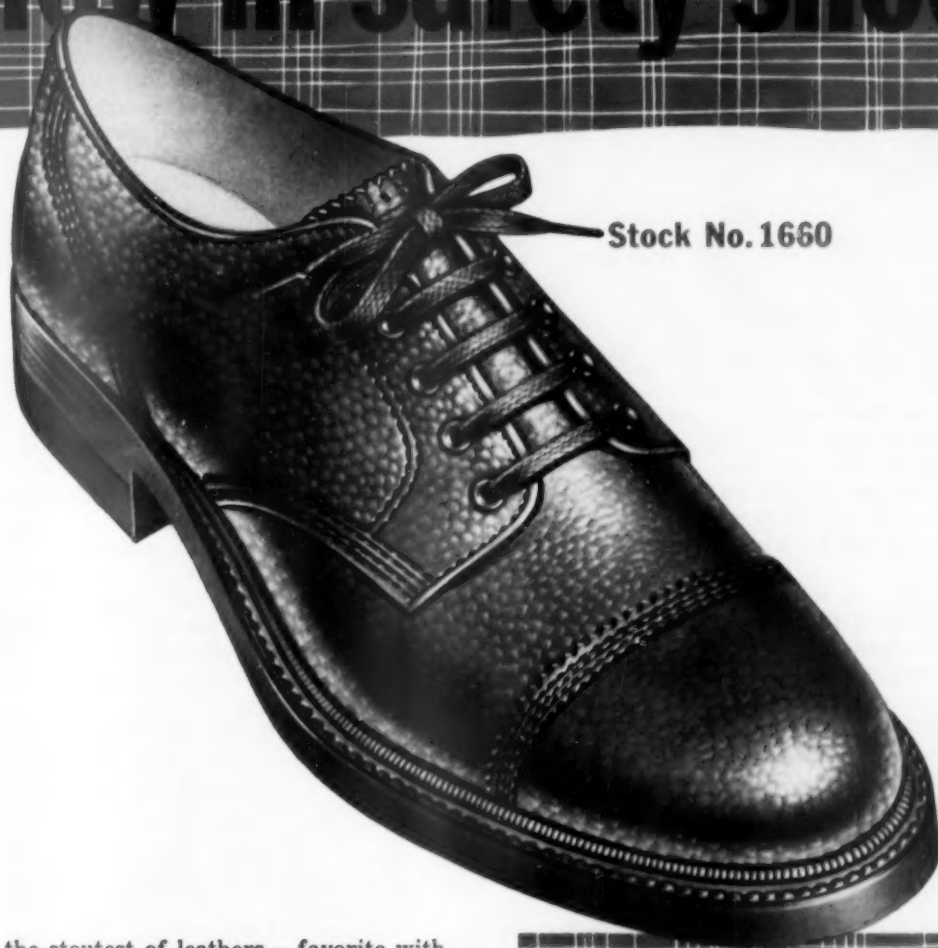
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THE ACCIDENT BAROMETER

Prepared by the Statistics and Research Division,
National Safety Council

ACCIDENTAL DEATHS in May numbered approximately 7,300, or 100 more than occurred in May a year ago. Increases in deaths from motor-vehicle and public non-motor-vehicle accidents were nearly offset by decreases in deaths from home and work accidents.

The total for five months was 34,000, or 2 per cent below 34,700 in 1954. Aside from a small increase in motor-vehicle accident fatalities, all classes showed some reduction from last year.

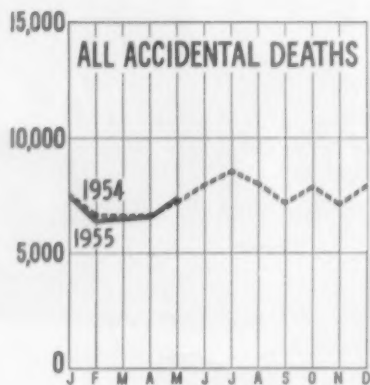
Motor-Vehicle Deaths

The May total of motor-vehicle deaths was 3,080, an increase of 6 per cent over May last year. Compared to 1953, it was an increase of only 1 per cent.

Deaths for the five months totalled 13,560, an increase of 1 per cent over 13,360 in 1954. The five-month death rate per 100,000,000 vehicle miles was 5.7, a reduction of 7 per cent from the 1954 comparable rate of 6.1.

For five months, 18 states had fewer deaths than in 1954, 2 had the same number and 28 had more deaths. Reporting cities with populations of more than 10,000 had an increase of 8 per cent for May but a reduction of 2 per cent for the five-month period.

Regional changes from 1954 in



	1955	1954	Change
May	7,300	7,200	+1%
Five Months	34,000	34,700	-2%

the five-month death totals were:

North Atlantic	+5%
South Atlantic	+6%
North Central	0
South Central	+1%
Mountain	-9%
Pacific	+1%

Work Accidents

Deaths from work accidents numbered approximately 1,000 or 100 fewer than in May last year. The total for five months was 5,300, a reduction of 2 per cent from 1954.

The May frequency rate for plants in community council contests was 5.55 per million man-hours, a decrease of 9 per cent

from last year. The May rate for plants in 18 sectional accident prevention contests conducted by the National Safety Council was 5.85, an increase of 7 per cent. The five-month rate in community council contests was 5.40, a decrease of 9 per cent, while in sectional contests, it was 5.58, an increase of 1 per cent.

Public Deaths

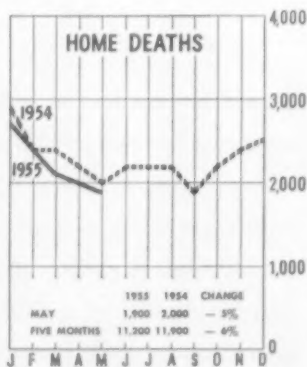
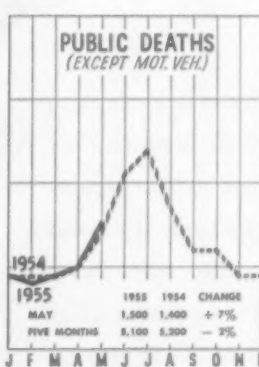
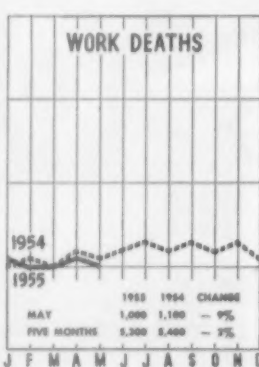
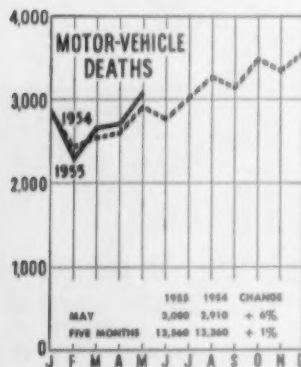
The death total for public non-motor-vehicle accidents in May was approximately 1,500, or 100 more than last year.

Deaths during the five months numbered about 5,100, a reduction of 2 per cent from 1954. There were decreases in deaths from falls, drownings, transportation and firearms accidents and increases in fatal burns and unclassified public accidents. Aside from increases in deaths of children under 5 years of age and persons 65 years and over, each age group showed some reduction from last year.

Home Deaths

May deaths from home accidents totalled about 1,900, a reduction of 5 per cent from 1954.

The five-month death total was approximately 11,200, a decrease of 6 per cent from last year. There was a sizable reduction in mechanical suffocation deaths, a moderate decrease in poisonings and small reductions in burns, falls and firearms accidents. Small increases were reported in deaths of children 5 to 14 years of age and persons 45 to 64 years old. Other age groups showed decreases with the largest change recorded for persons 15 to 24 years old.





The Ansul dry chemical fire equipment pictured above includes portable hand units, wheeled and stationary units and a jeep installation. Ansul also manufactures automatic

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THE SAFETY VALVE



Nothing burns it off to me.
—TRENCE

Editorials and Columns

MANY AN EDITORIAL is like a sermon described by Santayana in *The Last Puritan*; it would neither discourage a believer, nor annoy a non-believer. You could say that about many a piece I've ground out.

One reason, perhaps, is that writing editorials is hedged about by restrictions and taboos. An editor isn't expected to write against his convictions but he doesn't feel free to disagree with others—unless his publication goes in for politics.

Many editorials are dull because they are written from a sense of duty. The cause may be worthy and the editor is for it heart and soul but it just doesn't lend itself to vivid prose.

In an unsigned editorial the editor is speaking *ex cathedra*. It represents the policies of the publication. Every word and phrase must be weighed not only for its intended meaning but for possible misinterpretation. Satire can backfire, as this writer has learned from sad experience.

That, perhaps, will explain why editorials sometimes get ponderous. They are also impersonal.

This column was started some 12 years ago because a consultant who psychoanalyzed the magazine wanted to get the whimsy off the editorial page. He suggested, rather reluctantly, a column where the editor could let off steam.

A columnist's opinions need not, and often do not, agree with those of his bosses. This page has no official standing, but its perpetrator would never intentionally publish anything contrary to the principles of the safety movement. With most subjects there is opportunity for widely differing views, if expressed discreetly.

But with all the latitude a columnist enjoys, he can't escape all inhibitions. He must avoid the constant temptation to overplay his hobbies and his pet peeves. And there are plenty of intriguing topics loaded with TNT with a fuse attached.

Having to tread softly is sometimes irritating but it has its good side, too. If restrictions and inhibitions sometimes cramp a writer's style, they often keep him from making a fool of himself in print.

Controversy is fun but it has no real value when indulged in for its own sake. It is useful only when it stimulates a search for truth.

* * *

Living in the past has one big advantage, it's cheaper.

Fashion Note

MEN OF FASHION, we're told, will put their best foot forward with shoes of resplendent colors. Colorful plastic soles will harmonize with brilliant uppers.

These bright new numbers are expected to stimulate sales of men's shoes by purchase of an extra pair for special occasions. Today, men buy only 1.1 pairs a year. Women buy more than three pairs, indicating concern with color and style. Children average five pairs, mostly because they outgrow them.

Now shouldn't that explain why pop has to limp along with 1.1 pairs a year? And if past experience is any guide, next year will see 99.9% of the males still shod in practical black and brown that will go with suits and accessories of any color.

In This Issue

Laziness, rather than necessity, is the mother of invention, says R. C. Sollenberger in the lead article. Nowhere has the incentive been greater than in the field of handling material where the desire to escape dull drudgery and tired backs has led to the development of an amazing variety of mechanized devices. And mechanization, barring a major worldwide catastrophe, will keep on growing. (Page 18)

* * *

While the linotypes were setting copy on this article, Hurricane Connie let loose on east coast. While man has not yet been able to divert the force of the storms, the public utilities have been learning from experience how to minimize loss and hazard by restoring essential services as quickly as possible. And they do it with less risk to the crews who carry out these exhausting and hazardous duties. (Page 20)

* * *

Italy, noted for centuries of contribution to art, is now applying color to the functional uses of industry. Here is the story of one company's program. (Page 22)

* * *

Working under compressed air in tunnelling operations is hazardous and dirty work. So cleanliness plays an important part in the safety program. (Page 24)

* * *

There's a lesson in this month's *Diary of a Safety Engineer* for anybody who has to make the best of a bad situation—temporary or apparently permanent. Money spent on clean-up paid unexpected dividends. (Page 34)

* * *

Electric cords and fittings are used wherever light and power are needed, and that means practically everywhere. Data Sheet D-385 is therefore applicable for a wide variety of operations. (Page 35)

Carman Fish

WHERE WALKING IS NOT A LOST ART



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Books, Pamphlets and Periodicals of Interest
to Safety Men



Compiled by Ruth Parks, Librarian, NSC

Dust Control

Industrial Dust, Hygienic Significance, Measurement, and Control, by Philip Drinker and Theodore Hatch, McGraw-Hill Book Company, Inc., New York, 1954. 401 pages, \$10.00.

THE ANNOUNCEMENT that there is a new edition of this fine book will be sufficient to convince almost everyone working in the field that a copy is essential for his library. It is a pretty thorough job of rewriting and up-dating, as is attested by the fact that one-third of the 458 references cited have appeared since the printing of the first edition.

Both of the authors are, of course, well-known authorities in the field and their wealth of practical experience shows plainly in the nature of the very practical suggestions for handling the types of situations which one finds in practice and which are more amenable to the art than to the science of industrial hygiene in the present state of our practice.

The treatment of such subjects as the motions of particles in the air and the design of exhaust systems and other subjects where it is practical are theoretical and mathematical as well as practical. And the whole volume is eminently usable by engineer and chemist certainly, and probably by physicians and others interested in the subject.

Not the least of the attractions is that it is written so well as to be attractive reading and is indexed so that one can find what he is looking for.

F. A. VAN ATTA

Dust is Dangerous, by C. N. Davies, Faber and Faber, Limited, 24 Russell Square, London, England, 1954. XVII 116 pages, 21 shillings (\$2.94).

THIS IS NOT a book for the engineer or other professional in the practice of industrial hygiene because it is qualitative rather

than quantitative in its treatment. Mr. Davies has, however, a very broad knowledge of the theory and practice of the control of the dust diseases and has managed to compress an amazing amount of very fundamental information into a very small compass.

The result is a descriptive survey of dust hazards from the conditions encountered in mining radioactive ores to the hazards involved in the breathing of house dust or other non-industrial dusts and the possibility of explosions from combustible dusts. A survey of dust sampling methods, dust suppression methods, exhaust ventilation, dust collection, and personal protection is also included with a quick glance at the history of the art and science of industrial hygiene.

I enjoyed it as a general summary and running commentary on the profession. To the person with primary interest in safety or to the manager or engineer in the dusty trades wanting a general understanding of the health problems, and their solutions, without the detail required for design, it should be invaluable as well as easy and entertaining reading.

F. A. VAN ATTA

BOOKS AND PAMPHLETS

Aeronautics

Design for Safety. William D. Lewis and others. Aviation Age, 204 East 42nd St., New York 17. 1955, 46p. (A collection of design notes and human engineering bulletins showing design factors for improved safety.)

Design of Concrete Airport Pavement. Portland Cement Association, 33 W. Grand Ave., Chicago 10. 1955, 47p. Free.

A Survey of Background and Aircraft Noise in Communities Near Airports. K. N. Stevens, National

Advisory Committee for Aeronautics, Washington 25, D. C. 1954, 36p. Technical Note 3379.

Fire Protection

Fire Control—Its Equipment, Personnel and Procedure. Accident Prevention Department. Association of Casualty and Surety Companies, 60 John St., New York 38. Revised 1955, 30p. 20c.

Flammable Liquids

Recommended Regulatory Standard of the NBFU for Tank Vehicles for Flammable Liquids as recommended by the National Fire Protection Association National Board of Fire Underwriters, 85 John St., New York 38. 1955 revision. 15p. (NBFU No. 385) Free.

Lime Industry

Safety Standards for the Lime Industry. National Lime Association, Washington, D. C. 1955. 43p. 30c.

Paper Industry

Operation of Paper-Products Machines. Occupational Hazards to Young Workers. Report No. 12. Bureau of Labor Standards, 1955. 41p. Bulletin No. 181. 20c. For sale by the Superintendent of Documents, Washington 25, D. C.

Spray Painting

Standards of the NBFU for Spray Finishing Using Flammable Materials. National Board of Fire Underwriters, 85 John St., New York 38. 1955 revision. 24p. (NBFU No. 33) Free.

Water Works

Injuries and Injury Rates in Water-Supply Utilities. 1953, U. S. Department of Labor, Bureau of Labor Statistics, Washington 25, D. C. 1955. 33p. BLS Report No. 83. Free.

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A Jet Exhaust Silencer. John Tyler and George Towle. Noise Control. July 1955, p.37.

Burns

Electric Burns. Niel E. Eckelberry. American Journal of Nursing. July 1955, p.836.

Beryllium

Toxic Materials Machinery Safe-



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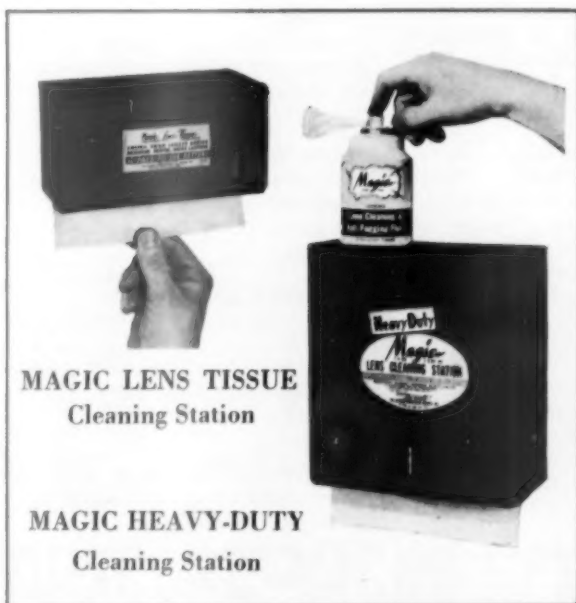
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ty. Donald P. O'Neil. *American Machinist*. July 4, 1955, p.125.

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Foundries

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INDUSTRIAL

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The Airline Captain says, "These new 'Scott'oramic Face Masks give me Helicopter Visibility . . . provide that side vision so vital in the last few seconds of a landing."



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Voice of the Reader

Comments on topics of current interest are invited.
They need not agree with the editors' opinions

Bike Safety Tests

SOUTH BERWICK, ME.—There was a very fine article in the August issue entitled "Bike Safety Tests Are Fun!" However, it mentioned a "one-handed riding test."

The article did not provide any details of this test and it may have a useful purpose, but safety engineers and other safety experts do all they can to discourage "riding with only one hand" and "riding with no hands."

One of our problems at the shipyard is to get bicycle-riding employees to carry material in the baskets provided or carry it in their pockets instead of in their hands when riding. Within the past week I saw an employee fall from a bicycle when the front wheel hit a stone near a street excavation all because he had several pencils in his hand that could have been carried in his pocket. In effect, he was gripping the handle bar with only one hand. When his handful of pencils slipped he lost his balance and fell to the pavement with the bicycle on top of him.

R. G. JASPER

We are quite sure that neither the insurance company nor the police department wish to encourage one-hand bicycle riding. However, with bicycle riding, as with automobile driving, it is sometimes necessary to control the vehicle with one hand, as when giving a direction signal.

* * *

Resuscitation

ORLANDO, FLA.—This headquarters requests permission to reprint portions of the excellent article, "Turning Back Death" by

William A. Mathews which appeared in the June issue.

It is felt that this article will prove helpful to members of this command in pursuit of their humanitarian mission.

JOHN L. VANDERGRIFF, JR.
Deputy Chief, Information
Services, Air Rescue Service,
United States Air Force

Permission is gladly granted. We are sure the author will also welcome further circulation of this life-saving information.

SUDBURY, ONT.—I have read with great interest the article "Turning Back Death." The writer and the Council are to be highly commended for making these facts known; the article clears up many points which have caused considerable controversy and discussion in the past.

Is it possible to obtain copies for distribution to members of this organization, which has as its purpose the dissemination of literature dealing with industrial first aid work. Our members are all first aid attendants to whom the problem of artificial respiration is most important.

BERTRAM S. DEBNEY
Secretary, The Association
of Industrial First Aid Attendants

Reprints are being considered but are not available at this time. If you wish to have the article copied, please feel free to do so.

* * *

Well-Equipped Lineman

BONN, GERMANY—The May 1955 issue of National Safety News carried a cover picture of an electric lineman wearing good protective clothing. We would appreciate

ate having your permission to reproduce this picture in our publication, *Die Berufsgenossenschaft*.

Could you send us a glossy print of the picture?

DR.-ING. KREMER

Hauptverband der Gewerblichen
Berufsgenossenschaften Zentral-
stelle für Unfallverhütung e. V.

The photo was returned so we are forwarding this request to United Illuminating Company, New Haven, Conn.

* * *

Bottom of the Sea

NEW BRUNSWICK, N. J.—Our leaders in the Cub Scouting Service are quite impressed with the article about Disney's underwater signals used in filming his movie "20,000 Leagues Under the Sea," in your February issue. We have a Cub Scout theme for next January entitled "The Bottom of the Sea" and this type of thing is very helpful.

Would it be possible for you to send a copy of this issue? We would like to recommend it as a program resource to our Den Mothers across America. Perhaps you would be willing to grant the Boy Scouts of America the privilege of reproducing parts of it in our program material some time in the future.

MARLIN S. SIEG
Assistant National Director,
Cub Scouting Service, Boy
Scouts of America

Copy has been sent. You are quite welcome to use this article in your program material.

* * *

Conveyors

TULLAHOMA, TENN.—We'd like to reproduce the article "When It Comes to Conveyors" in your July issue. This looks like something we can use in our safety training course. May we have your permission?

E. P. MARCONI
Manager, Safety Branch,
Aro, Inc.

You are quite welcome to reproduce the article. We are sure the author, H. C. Keller, will also be glad to have you use it.

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Neo-Supreme Soles—tested in all major industries under truly extreme conditions which quickly ruin ordinary soling materials—proved to be far superior in wearing qualities to any other sole yet developed. Super resistant to acids, caustics, extreme heat or cold, metal chips and oils, Neo-Supreme is accepted by workers, safety engineers and shoe manufacturers as the best sole for all extreme industrial applications. For greater comfort, safety and longer wear under extreme conditions, insist on Neo-Supreme . . . another first by Gro-Cord.

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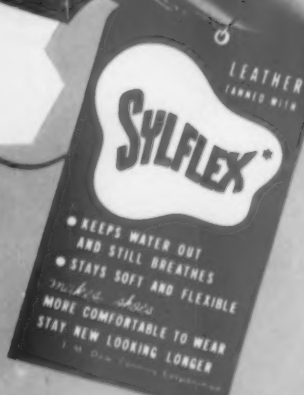
SILICONE-TREATED WATER-REPELLENT LEATHER

featured in

HY-TEST

H969

Brown "Sylflex" silicone-treated plain toe blucher; leather-lined Anchor Flange steel box toe; brown Resist-Oil Grit buffed full double sole and heel; storm welt; Cookie Cushion insole; Dacron stitched.



Keeps Water and Water-Soluble Chemicals Out and Still Breathes

To an already impressive line of outstanding safety shoes, HY-TEST now adds H969... the style made with new "Sylflex" silicone-treated brown upper leather *plus* brown Resist-Oil Grit full double sole and heel *and* the famous Cookie Cushion insole. H969 is soft, flexible, easy-going and long-wearing. The "Sylflex" tanned upper leather repels water and water-borne chemicals, keeps them from soaking into the fibers and still permits the leather to breathe. Feet are warm and dry in winter, cool and dry when it's hot and humid. The oil and acid-resisting sole and heel are slip-resistant and insure tough, long wear. And the Cookie Cushion insole includes arch and metatarsal pads to give built-in comfort all day long. There's nothing else quite like HY-TEST's H969.

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Too Many Meetings?

SOMETIMES we hear the fervent remark, "There are just too many meetings—too much talk and not enough action."

Most of us will go along at least part of the way with that statement. But vast quantities of words, written and spoken, seem to be needed to stimulate action.

One of the inescapable facts of life is that we are dependent on each other, and decisions must be made in groups, not singly. Our need for knowledge and more knowledge is desperate, and it is growing steadily as civilization becomes more complex. We cannot learn enough from reading, from watching others, or from discussions with individuals.

Also, civilization makes heavy demands on the responsibility we feel for welfare of others. So we attempt to reach many persons with a single message or a single piece of information. The meeting, or the series of meetings, which make up a convention, is one medium.

The year's most important safety meeting comes up during the week of October 17. It is important and far-reaching because it brings together leaders in all types of safety work. The men and women who will take and give information, make the decisions, persuade and be persuaded at the Congress, are those who will be leaders in regional and local safety conferences, staff and shop meetings in industry, club meetings, national, state and local government conferences and hearings, in union meetings, and, in fact, wherever there are accident problems to be solved.

The National Safety Congress sets in motion a long train of events which reaches millions of people all over this continent, and some overseas, with both information and persuasion.

Chairs in the meeting rooms may be hard, some speeches may be long and hotels crowded during Congress week. Five days of sessions are tiring—mentally and physically.

But out of the long days of listening and talking will come reactions that will mean lives saved and injuries prevented.

Axes, Axles, and Atoms

By R. C. SOLLENBERGER

Mechanization breeds mechanization, and only complete disaster can turn back the clock. It will keep on affecting our ways of working and living

WITHIN our own life span we have passed through the Mechanical Age, the Electrical Age, and are well started in the Age of the Atom. One can't help but wonder where we go from here. Perhaps with all of our devices to give us freedom from fatigue and more time to think, we will enter an age of mental development during which our progeny may learn to utilize the fantastic latent mental powers that sleep in all of us.

I think it was a Richard Franck, back in 1658, who coined the phrase about necessity being the mother of invention. Personally, I'm sure that the real mother of invention is simon-pure, bone-tired human laziness. We have nurtured this most human trait, pampered it through the ages until physical effort without enjoyment is almost extinct. How often have you walked to the golf course?

"Laziness" ties in more directly with mechanized handling than with almost any other facet of our modern way of living. Materials handling with human muscles is pure drudgery and who wants to be a drudge if there is any other possible way of making a living?

Another basic reason for the expanding use of machinery for

handling and other menial jobs is the sense of satisfaction to the machine operator. Only a few men have the opportunity of exercising leadership over other men, but almost any one can learn to lead a machine, to become its master. I still envy the chap at the controls of a giant power shovel; or the guy running a bulldozer, but I certainly don't envy the sodbuster with his shovel.

Mechanization breeds more mechanization and there can be no turning back the clock, short of complete disaster or annihilation.

We live constantly with robots yet seldom realize how they assume responsibility and smooth the way for us daily. They come in almost any convenient shape or size and they can outperform by far the most sensitive and skillful human within the limits of their assigned responsibility.

Our Little Helpers

I'm speaking of the little man who feels cold when your living room gets chilly and turns up the furnace; or the little chap in the refrigerator who maintains the temperature at any point you may set it and keeps you in ice cubes; other little men who change records on your phonograph, regulate the charging rate on your car battery, shift your gears, help your wife make a roast or bake a cake, warn of fires and then put them out. They may even close your windows in the event of a sudden shower, or put up the top on your new convertible.

We have machines now which

can not only duplicate each of the five human senses but can also extend the range of sight and sound into frequencies far beyond human perception. They can make objects known to us even though we may be hundreds or thousands of miles distant.

Our seeing devices may translate what they see directly into pictures as in television so that an operator may control a conveyor, a crane, a fork truck, or other handling devices from the safety and comfort of a point far from where the work is being done. Or they may translate what they "see" into signals which, in turn, operate mechanisms to perform the needed tasks. They can sort things by colors with variations in shade imperceptible to the human eye; or by shape, or other variation.

They can look into furnaces; maintain an unblinking, 24-hour watch to instantly report on danger from almost any cause, from fires to enemy bombers; turn our street lights on when daylight drops to a certain level and turn them off again at sunrise the next morning. Recently, someone introduced a machine which can literally read a foreign language and translate it into English.

Our ears become equally acute so that the slightest variation in sound becomes an instant warning or sets in motion machinery to correct whatever may have gone wrong. We have machinery that can feel differences in fractions of tens-of-thousandths of an inch; or tell the slightest variation in pressure or weight. Other de-

R. C. SOLLENBERGER is Executive Vice President, Conveyor Equipment Manufacturers Association. This article is adapted from a paper presented at the Fifth Biennial Materials Handling Conference, sponsored by the Westinghouse Electric Corp., at Columbus, Ohio, February 1-2, 1955.

vices can literally smell smoke, or dangerous gases and they could be made to "smell" almost any odor that could be used as a basis for automatic control.

We even have machines that can differentiate between the taste of different materials. Still others have extra-sensory perception to detect radiation or to see in the dark; and some have fantastic memories for figures or other data. About the only thing no machine can do is to exercise reason and wisdom, although some unkind souls have said that about humans too.

All of these extensions of man's senses can and will be applied to his automatic devices. You hear now of automatic order filling from a warehouse containing thousands of items. It is possible for a machine to make up orders from bulk storage of solids or even liquids. I can see where some limitations might have to be built in if selection was to be a matter of tasting. Otherwise, for example, in a bonded liquor warehouse you might find the happiest truck in the country.

The Age of the Atom opens up whole new vistas for development and, of course, brings with it a whole new series of problems. The dangers of radiation have spurred the development of many handling devices to permit operation from remote control points. Some of these devices can perform operations as capably as the most dexterous fingers.

Here is something that will be applied to the handling of other less hazardous materials, but which still present problems where humans must come in contact with them. It seems certain that more and better protection for the workman is on the way through better and more automatic handling machinery.

We have machines that can remember and we also have machines that can learn by experience. Perhaps you read of the "electronic mouse" that could be turned loose in a maze and, after a period of trial and error, could reach the exit. It could then always return to that exit along the shortest path and could even hunt its nest when its batteries needed recharging.

Stir Those Goodies

DID YOU EVER get a coke, and after drinking all the soda water finally find the sweet stuff at the bottom?

Did you ever see a person pour gobs of sugar in his coffee or teacup and then drink it down without wiggling the spoon?

Have you had dribbly whipped cream lately? Has your angel food cake been pancake style?

Have you often wished you had gone for a Yak-back ride someplace instead of to the party where people just sit tight, whirling olives around in their glasses?

Just goes to show you, things have to be stirred up occasionally to get the good out of them.

We're all loaded with information we've accumulated over the years, but we seldom use most of it. We'd probably be quite surprised at all the goodies we could turn up, if we tried.

Think of all the things we've been seeing, hearing, feeling, tasting and smelling all our lives—and learning something from, whether we wanted to or not.

Take all the safety precautions we've had aimed at us from the time we were kid-size—by parents, teachers, bosses, in print, on radio, on T.V. and in the movies.

Let's stir up all this savvy that's inside of us someplace, and have it available for use in case of emergency.

It might save a cut, or a scratch, or a strain, or a finger, or a life—maybe even your own.

ROBERT D. GIDEL

Perhaps this principle can be applied to a materials handling device that will find its way around a plant, picking up and delivering materials as it goes along. If human supervision is needed, radio control is sure and simple and the device can easily carry its own eyes to tell the operator exactly what it is doing at all times. If necessary, it can carry its own ears to relay audible information back to the operator.

It's quite possible that overhead cranes and hoists will be operated by remote control with the crane hook or magnet carrying its own eyes and possibly its own ears if it happens to be operating in hazardous areas. Many cranes will become manipulators instead of just lifting and carrying devices.

Versatile Conveyors

Conveyors are becoming combinations of mechanics and electronics and in a lot of cases the control apparatus may almost hide the conveyor. Conveyors are being adapted as automation devices for almost an infinite variety of purposes.

There are two other fields in which conveyors are bound to expand: the long haul for bulk materials and even packaged goods; and shorter hauls for passengers. To some extent the rapidity with which both areas develop will depend on public acceptance.

Eventually, you will see conveyor lines handling bulk materials for hundreds of miles where the economics of the situation justify the installation. Justification for conveyor lines is apt to show more readily than one might think. Certainly such transportation will be considered wherever there exist the twin factors of a continuous supply of material at one end and a continuous demand for that material at the other end.

In mountainous country, conveyor lines can be built for a fraction of the cost of either highways or railroads and then operated at less cost per ton-mile than either. Such lines will be used in bringing out ores and minerals to processing plants located at convenient points.

You read a great deal about

—To page 130

The signal tower at Southport, N.C. showing hurricane flags torn to shreds and the metal mast permanently bent by hurricane "Hazel" on October 15, 1954.



All Set for a Big Blow

With the experience of past storms to guide them, electric power companies are prepared to restore service quickly and safely

THE 1955 hurricane season is at hand.

In the south Atlantic at this very moment, a tiny storm center may be forming that will grow into this year's counterpart of 1954's destructive Carol, or Edna, or Hazel. You never can tell about the weather.

Electric power companies with generating plants and distribution lines in potential hurricane paths, however, haven't been sitting on their hands since last hurricane season.

Ever since the lights went on again in the last home blacked out by hurricane Hazel, they have been bettering their plans for restoring service with maximum safety and speed. The plans range

from simple ones for smaller companies to highly developed procedures for the big systems.

Typical of emergency procedure plans is the one developed by Boston Edison Company, which provides employees especially trained for emergency jobs, the marshalling of outside contractors and tree experts, the bringing in of extra line crews from companies outside the hurricane area, and the accumulating of critical repair materials, such as wire, poles, and pole hardware from all available sources within 1,000 miles.

The companies in last year's tropical storm paths well remember the flooded plants and blown-down wires that were their share

of the \$1 billion property damage done by 1954's three destructive hurricanes.

In hurricane Carol, Long Island (N.Y.) Lighting Company had a 60 per cent customer outage. Connecticut Light and Power Company's distribution lines for 99,000 of its 280,000 customers were put out of commission. Narragansett Electric Company in Providence, R. I., had a 100 per cent outage when a high tide flooded its generating plant.

In hurricane Hazel, Public Service Electric & Gas Company in New Jersey had an outage of 415,000 of its 1,333,000 customers. Niagara Mohawk Power Corporation in New York lost 250,000 of its 1 million power users.



Inter-company aid is typified here as a South Carolina Electric & Gas crew from Charleston repairs a 7,200-volt feeder at Faison, N. C., one of the hardest-hit spots in the area served by Carolina Power & Light Company.

Carolina Power & Light Company, which bore the brunt of the Hazel blow, lost seven out of eight of its customers in two hours, and plant employees in a Herculean effort backed the generators down from a load of 606,000 kilowatts to 280,000 without causing any damage to the generating equipment.

From the 1954 experience, much about restoring service was learned up and down the Eastern half of the nation. Emergency procedure plans have been revised to reflect some of the lessons and new repair techniques learned in last year's "big blows."

The result:

If hurricanes come this year and you live in their path, there's less chance of a power failure on your street. And if there is a power interruption, service will probably be restored faster than a year ago.

In addition, the period in which dangerous live wires may be writhing among fallen branches on storm-swept streets or highways is likely to be shorter.

There's a two-fold objective underlying every power restoration job after a hurricane:

1. To get live wires off the streets as quickly as possible.
2. To use power restoration techniques

that assure safety for the men doing the repair work.

Biggest aid in speeding power line repairs after widespread damage to wires and poles is the development of mutual assistance plans.

Mutual aid isn't new. Several years ago 20 companies in the Middle Atlantic area got the idea under way by arranging for an interchange of directories to be used for getting assistance from outside electric companies during emergencies. In New England, line crew exchange centers were set up for the same purpose.

But the wide sweep of last year's major hurricanes brought interchange of assistance beyond the old mutual aid areas. During hurricanes Carol and Edna, New York State Electric & Gas Corporation sent crews to New England to help repair the storm damage. And during hurricane Hazel, New York State Electric found itself in need of outside aid and had to summon the assistance of crews provided by the New England electric companies.

Don't be surprised if another hurricane brings even more crews into the Eastern storm territory from points as far away as the Mississippi. The pattern already has been set.

In hurricane Hazel, 300,000 of Philadelphia Electric Company's 1 million customers emerged with-

—To page 122



Looking west along the storm-lashed shore of Long Beach, N.C., where a line of five summer homes once stood. Of 300 houses, only five were left on their foundations.

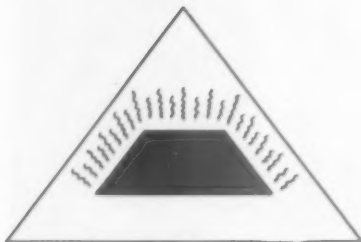


Round green signs are standard for the identification of first aid equipment.

COLOR IN SAFETY

—Italian Style

By FABER BIRREN

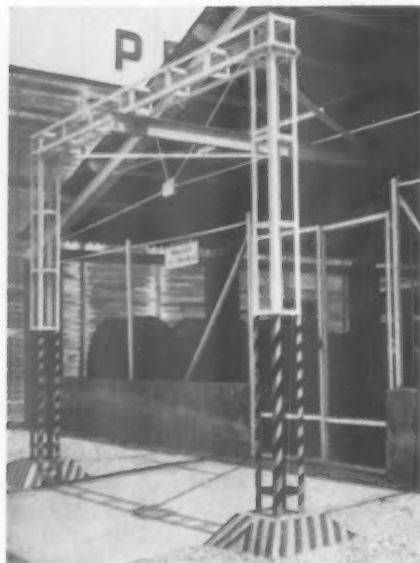


Triangular yellow signs are standard for caution.

Square red signs with various symbols are used for extreme hazards.



Color has been used effectively inside the plant and out for both functional and esthetic purposes in a style typically Italian. Along with good training and supervision it has helped to bring down the accident rate.



THOUGH color is relatively new to the field of safety, its advantages have won rapid and enthusiastic support. This is prob-

During April 1955, Faber Birren attended a First World Congress on the Prevention of Accidents in Rome at the invitation of the U. S. Department of State and the Bureau of Labor Standards. Following this he visited eight major Italian cities, lecturing on the functional application of color and surveying industrial plants. One of the highlights of his tour was a trip to the Socony-Vacuum Italiana refinery in Naples, described here, where American principles in the use of color have been used with effective results.

ably due to the fact that it not only has direct application to the marking of hazards but to better production and labor morale. Because human environment is important—at work as well as elsewhere—the powers of color have far more than mere esthetic interest. Functional color, well applied, relieves eyestrain and fatigue and contributes much to human efficiency, comfort, and well being.

In a recent tour of Italy the author observed modern principles of color conditioning applied at the Socony-Vacuum Italiana

refinery at Naples—and discovered, with agreeable surprise, that results vied with some of the best American records.

A lot of credit is due to Socony-Vacuum management and to the concentrated efforts of Roberto V. Romano, the American-trained safety supervisor for all the company's facilities in Italy.

Color, good safety training, and supervision at the Naples refinery have helped to lower accident frequencies from 35.2 in 1951 to 7.98 in 1954—a reduction of some 77.2 per cent! (The national average for the petroleum indus-

try in America is 9.0.) While the 1951 rate was admittedly high, the Socony-Vacuum Italiana record, carefully documented, should serve as a reminder that a good job can be done where the proper determination and effort are expended.

With accident costs averaging \$50 per worker (for all workers) in America, and from \$35 to \$45 in Italy, the humanitarian benefits of fewer injuries are complemented by sizable cash savings. No doubt Socony-Vacuum has saved a lot of money, set an exemplary record in Italy, and done much to foster the best of public and industrial relations in a country where the political aspects of private enterprise are under sharp attack.

Mr. Romano's safety program may have elements in common with those of America, but what has been accomplished would be commendable under any circumstances or conditions. Italy itself is safety-minded throughout and conducts an intelligent and widespread campaign touching virtually all industry including agriculture. Safety training and supervision are handled by a governmental organization known as ENPI with headquarters in Rome and with well equipped and well staffed branch offices in all major Italian cities — many of which were visited by the writer.

Accident reduction and increased productivity are being ably met with the excellent support of industrial organizations, government agencies, private industries, labor and trade associations. Most plants are of masonry

(partially because of the scarcity of wood). They are well equipped, the employees well trained, and housekeeping is maintained at a higher standard perhaps, on an average, than in America. Much is traceable to the Italian temperament which is independent in spirit, with practically every man a natural-born craftsman.

Recently more efficient production techniques have been introduced. There is new evidence of the cooperative attitude found in American plants where rules are secondary to an accident-conscious temperament and where there is a competitive enthusiasm to avoid injury. ENPI consequently has gone into the psychological aspects of safety and is devoting attention to human factors which regard the whole background of the worker both inside and outside the plant.

Because the fine record of Socony-Vacuum Italiana speaks for itself, a brief review of its safety measures holds real significance. The Birren-du Pont color code has been carefully applied plant-wide: *yellow* (black and yellow stripes) to mark strike-against, stumbling and falling hazards; *orange* for acute hazards; *red* for fire protection; *blue* for electrical controls; *green* to identify safety equipment. Machinery is a *soft green*, highlighted with *buff*. *Green* and *ivory* are used in some mechanical areas and in locker rooms. Stairways and corridors are *pale blue*. The cafeteria is *pale green*. Tile is profusely applied.

As in a few American refineries, the color program has also been adapted to exteriors. Naples is a colorful city, what with the blue of the Capri Sea, the red lava of Vesuvius, the yellow ochre of Pozzuoli soil, the lush green of the Sorrento plateau. This probably is no place for a gray refinery, and a complete rehabilitation is under way. In the panorama of the plant today can be seen tile-colored sheds, pale green and pink buildings, sky blue metal roofs and exhaust ducts. Steel towers are planned in yellow and blue, pipes in green and maroon, other structures in orange. Some of this color is strictly Italian in esthetic feeling; most of it, however, is along functional lines, such as for piping identification and the application of high-visibility colors to open steelwork.

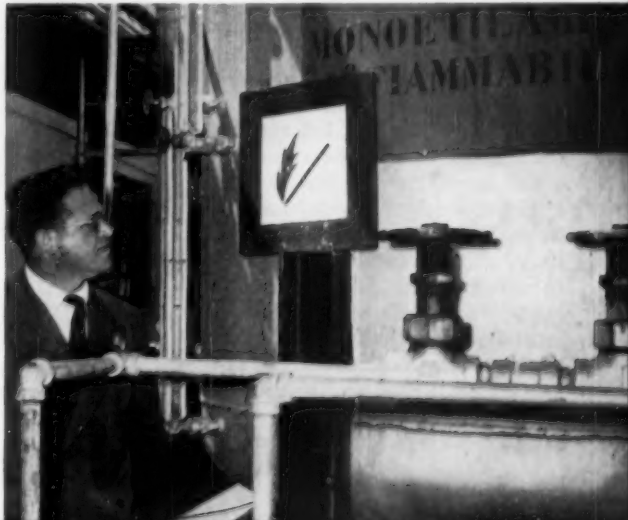
A vigorous safety program has further elements. Physical hazards are being eliminated or amply guarded. Personnel is protected with anti-dust masks (electrostatic), leather gloves, and special non-skid boots. There are regular group lectures, safety motion pictures, posters. Fire protection is being extended, and isolated smoking areas have been set aside for the workers. A punch-card recording system keeps automatic track of every employee.

Because of language difficulties, not only among foreign workers, but among north and south Italians, Mr. Romano has made free use of symbolic rather than let-

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Socony-Vacuum's Italiana refinery at Naples, Italy. The common use of gray has been replaced by blue on roofs, with buildings, structures, piping in green, pink, yellow, blue, maroon, orange.

Roberto V. Romano, safety supervisor, with one of his symbolic signs used to promote safety while avoiding language difficulties.





Sandhog Harry Jonas emerging from his three-hour shift in compressed air. Tired and covered with mud, he's looking forward to a wash-up.

Safety for Sandhogs

An important part of the tunnel gang's safety program, cleanliness pays big dividends

DIGGING a tunnel is a dirty as well as difficult and hazardous job.

But the 200 sandhogs who are "mucking" the \$100 million third tube of the Lincoln Tunnel under the Hudson River between Weehawken, N. J., and New York have better medical and cleanliness facilities than ever before in history. These include, besides the modern shower and locker room, a complete medical clinic with doctors constantly on duty at the entrance to the shaft.

This investment in health and accident prevention by the Port of New York Authority, which is constructing the new tunnel, is paying off handsomely. Eight months after the tunneling started there had not been a single case of the bends, or compression sickness, among the sandhogs.

Each sandhog works two three-hour shifts a day in the compressed air chamber 100 feet below the surface of the river.

The men are driving a huge shield through the rock and mud from the New Jersey side of the river. In the face of the shield are steel bulkheads which can be opened to admit rock and earth into the tunnel. On the forward edge of the shield are steel cutting edges. Inside and to the rear

are 28 giant hydraulic jacks, having a thrust of 200 tons each. These huge jacks drive the shield forward on the mile-and-a-half long trip under the Hudson.

To get in and out of the hot, cramped "high air" chamber where the pressure is up to 30 pounds per square inch above

normal, the men go through air locks. The tunneling goes on 24 hours a day, with a steady stream of men and materials on mine cars being locked into and out of the chamber.

As the sandhogs come out of the air lock, they enter the shower and locker room. There, a dozen



Decompression chamber for preventing compressed air illness (bends). Two-section steel chamber is 18½ feet long and 6 feet in diameter. Front section is used for testing ability of men to work under compressed air; rear section for treatment of bends. Men are placed in rear lock, permitting doctor or nurse to enter through front without effecting pressure in treatment chamber. Eight men can be treated simultaneously while their reactions to pressures ranging from 5 to 15 pounds above atmospheric pressure are observed by medical attendant through glass "bull's eye" above door. Oxygen inhalator is at right of chamber.



Locker room showing circular wash fountains operated by foot pressure on circular pipe.



The men relax between shifts in the dining and recreation room. (Photos courtesy Cleanliness Bureau.)

showers and six large, circular washing-up sinks provide the most modern cleanliness facilities.

The regular use of showers after each shift is urged by the medical staff, for showers are considered a psychological and emotional, as well as health aid for the men. What's more, they serve a definite medical purpose besides getting off the dirt.

Dr. Samuel I. Kooperstein, director of the Port Authority's medical department, explains:

"Coming out from the compressed air chamber, the men get frost on their skin. The shower gets rid of this and helps establish better skin circulation. It's a form of hydrotherapy."

Dr. Kooperstein is proud of the fact that his comprehensive medical and safety program, set up especially for this job, has resulted in a new low record of injuries and illnesses among the men. He calls it "out of this world."

"We're interested in preventing illness, rather than treating it," he says. And he adds: "We try to make the employee a part of the team. We don't throw medical care at him; we try to convince him of our sincerity. We're not management representatives. We're simply doctors."

The men need no urging to make good use of the facilities. The locker room is a busy place when a shift comes off duty, with showers going full blast and men washing clothes as well as them-

selves in the big circular sinks.

A boiler room provides the hot water. Free liquid soap is available at the wash fountains although many men prefer to bring their own bars of soap. About 20 gallons of the liquid soap are used each month.

The men provide their own clothing and towels. To make it easier to keep them clean, the Port Authority has provided a washing machine which is available free of charge to any one who wants to use it.

During the three hours between shifts, the sandhogs relax in a dining and recreation room next to the locker room. This contains a television set and a movie projector, both provided by the Port Authority. The field engineering staff uses the projector to show safety and educational films. This is another part of the program to keep down the illness and accident rate.

As vice-chairman Donald V. Lowe puts it: "The Port Authority has always felt that we should do everything possible to assure the good health and safety of everyone involved in our efforts."

As for the men, they're convinced of the advantages. One old-timer who has worked on many other compressed-air jobs in the New York area, including the other tubes of the Lincoln tunnel and the Brooklyn-Battery tunnel, calls the facilities "the best in the business."

"Terrific," says another, a youth just out of his teens.

"Ain't never had anything like this before," says another, "and now we've got it, we sure want to keep it on future jobs."

The sandhogs' union—the Compressed and Free Air Tunnel and Sewer Caisson and Foundation Workers of America, AFL—is fully behind the efforts of Dr. Kooperstein's medical staff to make this the safest job in the history of tunnel digging.

And the fame of the health and safety program is spreading throughout the world. Visitors from many foreign countries have come to the project to learn about it. To explain it, the clinic has available a doctor who can speak a dozen languages.

This third tube of the Lincoln Tunnel is expected to be in operation in 1957 and will increase the capacity of the tunnel by 50 per cent. During peak hours capacity will be doubled, since two of the three tubes will be used for traffic in one direction. This will be a welcome addition to the traffic-choked tunnels and bridges which connect Manhattan Island with the mainland.

In 1953, when ground was first broken for the third tube, more than 20 million vehicles used the Lincoln Tunnel. The Port Authority is already looking forward to an annual count of 30 million cars, trucks, and busses pouring through the tunnel when the third tube is completed.



Looking across the Michigan Avenue Bridge. At the extreme right, somewhat overshadowed by the famous Tribune Tower, is the Council's home. A CTA bus or a taxi will drop you at the Tower and your own feet will take you across the catwalk which leads right into the second floor lobby of our home.

WHEN the preliminary edition of the Congress program arrives, many a safety man lays aside whatever he happens to be working on to browse through its contents. Probably he has already seen a preview of his own section's program; maybe he has served on one of the many program committees, or is one of several hundred who will present a paper or take part in a panel. The printed program gives him a picture of the Congress as a whole.

And, if he is foresighted, he already has taken care of the important matter of hotel reservations.

Listed in the program is an amazing variety of subjects—as old as the human element in accidents and as new as atomic energy in industry. There is something for everybody, regardless of his specialization in safety. The experience of more than 40 years is reviewed and brought up to date for the benefit of both new and experienced safety men.

* * *

Gone are the days when all sessions of the Congress could be held under one roof. Five hotels will again be needed—the Conrad Hilton, Congress, LaSalle, Morrison, and Blackstone. Registration desks will be maintained at the first four hotels. For meeting room assignments see printed program.

Both meeting and guest rooms present a problem. Reservations are filled in the order received and rooms in the headquarters hotels are quickly filled. For those who have been unable to make plans in advance the Council's Housing Bureau has always

Chicago Welcomes You

been able to secure rooms, though usually at outlying hotels.

* * *

Subject Sessions. Two topics which are absorbing increasing attention of industry and the general public are atomic energy and noise. Each will receive special attention at a subject session sponsored by the American Society of Safety Engineers. Fifteen of these subject sessions are scheduled.

Other topics are:

Accident Control: Phase 1—Administration; Phase 2—Cost.

Are Your Employees Falling Down (literally) on the Job?

Effective Reporting.

Handling Chemicals and Industrial Wastes.

Illumination and Safety.

Off-the-Job Safety.

Offices Have Accidents, Too.

Placing the Safety Engineer for Best Performance.

Safety Training Down the Line.

One session will be devoted to a discussion of Z16.1, the new ASA Standard Method of Recording and measuring work injury experience, widely hailed as "the yardstick of safety performance."

Of sufficient anticipated interest to justify holding it in the Grand Ballroom of the Conrad Hilton is the session, "Safety Is a Way of Life." Safety will be interpreted by a clergyman, an industrial leader, and an insurance executive.

* * *

Right after breakfast. By 8:30 a.m. Tuesday through Friday, the Grand Ballroom of the Hilton will be filled with delegates anxious to improve their techniques of winning friends for the safety program and influencing people in observing common-sense precautions. Theme of these Early Morning Sessions will be "Communication and Safety." Communication, as the word is used in personnel relations, is a very broad term covering many of the elements of psychology, salesmanship, and training. Leader of the sessions will be Arthur Secord, director of Community Service and Professor of Speech at Brooklyn College. Dr. Secord established a reputation with safety audiences at the 1952 Congress when he conducted the Early Morning Sessions.

43rd National Safety Congress and Exposition October 17-21

Women's Activities. There was a time when women's participation in the Congress was limited pretty much to home safety and the school and college activities. Now, in addition to expanded activities in these fields and the important Occupational Health Nursing Section, a special meeting is devoted to Women's Activities. Theme for this year's meeting will be "Design for Today." At a reception on Monday afternoon, the Carol Lane Award winners will be introduced.

* * *

Safety's World's Fair. The greatest collection of safety equipment, products, and services yet assembled will be housed on three floors of the Conrad Hilton. In addition to the exhibits in the Exhibition Hall on the lower lobby level there will be displays on the second and third floors. Free literature, help on your specific problems—also some useful and attractive souvenirs—are among the attractions. The Council's services and publications will be a central feature of the Exposition.

By day or by night, Michigan Boulevard is a fascinating sight—even to people who live in Chicago. The lions in front of the Art Institute are silhouetted against the night sky.



SPOKESMAN FOR DEMOCRACY



Those who have heard Elizabeth Evans deliver her stirring message, "I Speak for Democracy," will always remember it. It will be a highlight of the program of the Annual Council Meeting, Monday Morning, October 17.

Miss Evans, who was graduated this year from Buchtel High School in Akron, Ohio, was one of four national winners in the Seventh Annual Voice of Democracy contest sponsored by the National Association of Radio and Television Broadcasters, the Radio-Electronics-Television Manufacturers Association, and the United States Junior Chamber of Commerce. She has appeared before 100 meetings, largest of which were the conventions of the National Education Association, Kiwanis International, National Association of Manufacturers and the Chamber of Commerce of the United States.

In her senior year at high school, Miss Evans' activities included National Honor Society, Student Council, orchestra, Quill and Scroll, Y-Teens, National Forensic League, and editorship of the school paper. This fall she is enrolling at George Washington University, Washington, D.C., where she will major in journalism.

Principal (male) speaker at the Annual Meeting will be Maj. Gen. Paul F. Yount, the Army's Chief of Transportation, who will describe its successful program of controlling accidents in world-wide transportation operations.



Foam separates flammable vapors from air, prevents combustion.

Fire Protection By Prescription

Water spray, foam, and dry powder all play a part in protecting this chemical plant

By DAWSON POWELL

ANALYZING fire and accident hazards of a chemical plant and writing an effective prescription is usually a cooperative accomplishment by at least three or more contributors.

The plant designer brings the hazard together, of necessity combining various flammable materials in chemical manufacturing processes. The plant fire protection and safety engineer recognizes the hazard and seeks a

solution. He is assisted and prompted in his efforts, sometimes even forced, to find a solution by the insurance company's fire protection engineer who can withdraw insurance coverage or raise the premium rate, if adequate protection is not provided.

All three have a right to look for assistance and guidance to the special hazard fire protection experts of the fire protection contractor, who will supply the protective equipment needed, engineer it for adequacy and economy, suggest alternative fire

extinguishing materials and methods, and share a major interest in maintaining the system at peak operating efficiency.

What follows, is a simple method of analyzing a special hazard fire protection situation at the Rohm & Haas Company's Bridesburg Plant in Philadelphia, designed by the chemical plant's safety director, M. A. Gimbel, and engineered and installed by Grinnell Company, Inc.

We start our analysis with a slightly limited definition of "fire" as the fire protection industry undertakes to control or extinguish it. "Fire" is combustion in the form of *flame*, with light and heat as its important by-products. In analyzing a fire-hazard situation, we need to know about and evaluate the following factors which make fire possible and keep it going:

1. Input heat
2. Fuel—necessarily a gas or vapor
3. Oxygen—usually from air
4. Mixing—essential to rapid combustion
5. Proportioning—for rapid combustion
6. Continuity of ignition

Much confusion has resulted in the past from trying to limit our understanding of fire by considering only the three points of the fire triangle, variously expressed as fuel, air, and heat or fuel, oxygen, and ignition. When further elaborated to the six factors listed above, we obtain usable factors which we can control, either to produce or to extinguish fire. Eliminate or interrupt the supply of any of these factors long enough and the fire will spontaneously go out.

Following these six factors through a typical chemical plant fire situation, we may find that the source of the originating input heat can be such common causes as lightning, frictional heat or sparks, temperature-control failure, welding, smoking in prohibited zones, infraction of safety rules, etc.

After flame is produced, the flame itself becomes the source of input heat required to maintain the fire. The function of input heat in the fire reaction is to dis-

DAWSON POWELL is Technical Editor, Grinnell Company, Inc.

till flammable gases or vapors from solids such as wood, cloth, coal, etc. or from liquids such as light, medium, and heavy oil and many chemical intermediates or end products which require only an input of heat to turn them into flammable vapors or gases.

Striking and burning an ordinary wooden kitchen match illustrates the entire fire cycle. Friction on the match-head supplies sufficient input heat to start an exothermic reaction and form gases which mix the oxygen of the air and burn as flame. The flame heat becomes input heat to distill off flammable vapors from the match stick and to produce thermal currents which promote mixing with air. As proportions within the flammable limits are realized in this mixing process, the proportioned and mixed air and gas-or-vapor burns as flame and the flame is a source of continuing ignition.

The match can be extinguished simply by holding it with the head up. In this position, the proportioning, mixing, and burning of the distilled gases and vapors occurs above and away from the fresh wood of the match, which must have input heat to distill off more gases and vapors. The flame heat is dissipated without evolving more fuel from the match stick and the fire goes out from exhaustion of its fuel supply. Blowing the match out dilutes the flammable mixture below its flammable limits and interrupts ignition.

Many materials in chemical



Kitchen match explains fire's "mysteries."

plants can be extinguished by blocking off or removing input heat from them fast enough to prevent their vaporizing or evolving flammable gases. Water spray is probably the most useful, because it can be applied directly upon most materials or their containers. In addition, input heat acting on water spray turns it to water vapor. The increase in volume from this change is approximately 1,650 times the spray's volume as a liquid.

All of this water vapor is immediately available to dilute any air-flammable-vapor mixture with which it blends, creating a new mixture of water vapor, air, and flammable vapor in which the proportions are below the flammable limits and, therefore, unburnable.

Foam's principal function in fire extinguishment is to separate the source of flammable

vapors or gases from the air with which they must be mixed in definite proportions. It does this by providing a mechanical barrier which is tough enough to withstand the vapor pressure developed in the heated liquid and prevent its vapors and gases from intermixing with the air. It shuts off the fuel supply.

Foam also has secondary functions. Usually being light in color, it reflects away the radiant heat coming from the flame source, thus preventing radiant heat from becoming input heat and distilling off more vapors. Since commercial foam materials are generally mixed with water and have a high water content, they can also be a minor source of water-vapor and provide some dilution of flammable mixtures near its surface.

Dry powder, useful in many chemical fire hazard situations, operates primarily by giving off carbon dioxide when it is subjected to input heat. This carbon dioxide mixes with and dilutes flammable vapors, bringing them below their flammable limits and extinguishing the flames. A layer of dry powder also reflects radiant heat. The CO_2 given off by dry powder mixes intimately with the flammable gases or vapors given off by the liquid on which it is floating, effectively diluting the gases or vapors before mixing with air can occur, and before a flammable mixture can be created. Dry powder is mentioned here only as an alternate in some chemical plant fire situations.



Water spray counteracts input-heat, provides water-vapor dilution.



Foam nozzles can also supply water-spray if foam supply fails.



By L. C. SMITH

FLANNEL board presentations are not new, but new and improved papers that readily adhere to the board without the addition of a flocking material give greater versatility to this type of presentation. Art work can be done directly on this paper and it can be run through a printing press. It adheres well and lies flat and smooth against the board.

The basic principle of the flannel board is that certain fabrics and materials have an affinity for each other. Two of these materi-

als—one for the information to be presented and one for the board—make a fast, easy visual presentation combining the best features of the blackboard and the flip chart.

The flannel board is a board or panel covered with a specially treated cotton or other cloth with a deep nap. Materials to be presented are printed or drawn directly on a special paper, or a flocking material is glued to the back of a picture, poster, etc. The material is pressed against the board, where it stays in the desired position. Coarse sandpaper may also be glued to the back of posters and other displays to make them adhere to the flannel board. It is always a good idea to test for good adherence. To have the materials fall down before the presentation is complete is very annoying.

The flannel board is an excellent visual aid in training pro-

grams and for presenting plant safety programs. With cut-outs of cars and representative symbols, the instructor can construct various types of traffic situations. Machinery cut-outs can be readily moved about to illustrate various situations and conditions in the plant.

The basic points of an outline are easily shown with the aid of a flannel board. As each point is discussed it is placed on the board. Thus the person making the presentation builds his outline as he talks with a minimum amount of time and effort.

The flannel board is ideal for demonstrating the relationship of various parts of equipment and the operation of the different systems. As each piece or part of the equipment is explained, it is placed on the board. The student is not confused by being shown the complete piece of equipment the first time. By building up the

L. C. SMITH is a Senior Engineer, Industrial Department, National Safety Council.

unit piece by piece, it is easy to follow and understand.

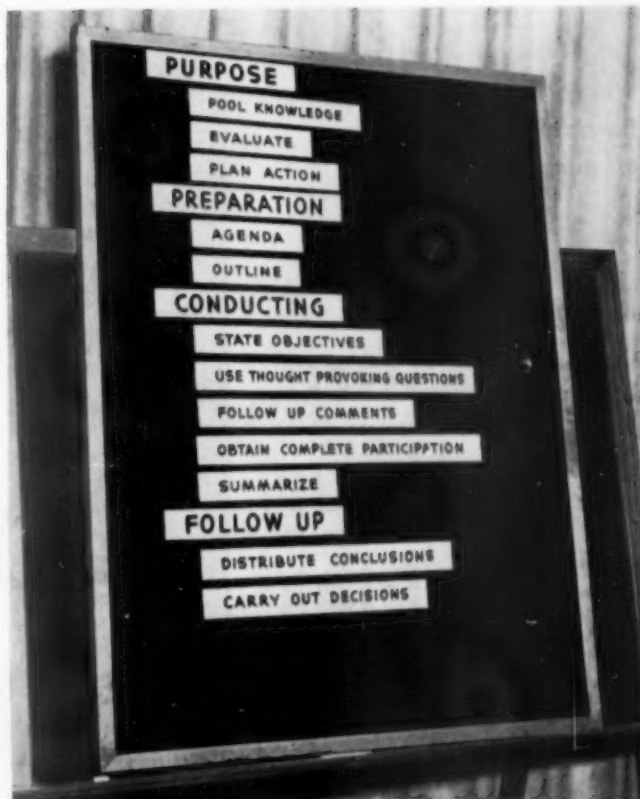
When a number of people are giving out the same information, duplicate sets of materials may be prepared and given to each person. In situations requiring one person to give the same information a number of times, the flannel board is an effective and efficient method of presentation.

Statistics may be animated by a flannel board presentation. Circle or pie graphs, bar graphs, and line graphs may be built on the flannel board as the speaker talks. Such a presentation is extremely effective.

The standard background color for flannel boards is black. They may be purchased under various trade names and in a number of styles and sizes. Among the most popular are portable boards consisting of two panels, each panel in sizes of 2' x 3', 3' x 4', 3' x 6' or 4' x 6'.

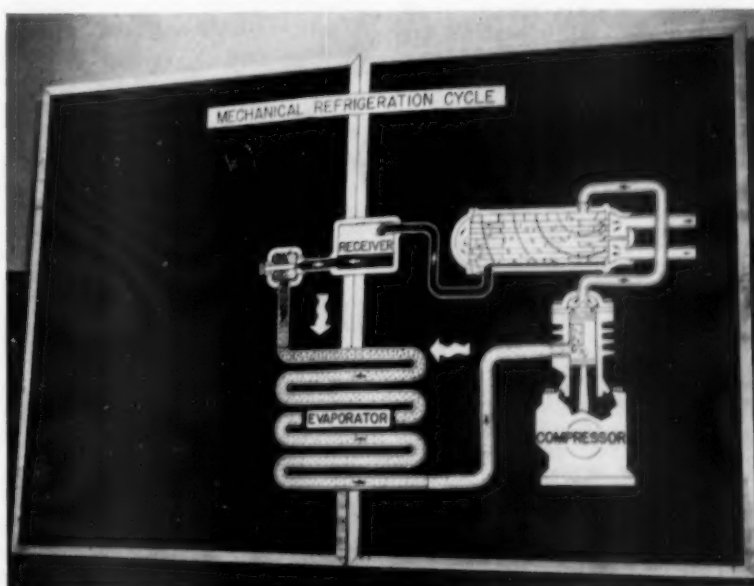
Boards with built-in easels and stands are also available. Single 2' x 3' sections that may be connected to provide any size working area are also available.

Several companies are equipped to supply not only the boards and flocking materials, but also offer consultation and art service for the development of attractive and interesting presentations.



Flannel boards are excellent for outlining and stressing the major points of a presentation. Since the outline is built up as the speaker talks, a minimum of time and effort is expended. Here is an outline on conference leading used by the author in conducting classes on this subject.

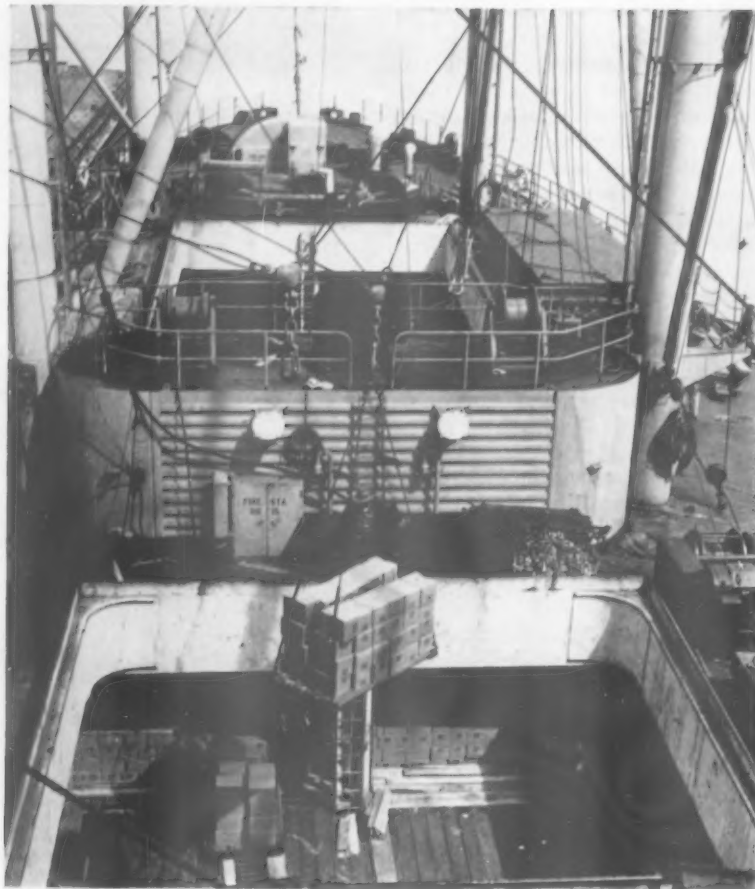
The flannel board is effective in showing the operation of a machine or piece of equipment. The unit may be built up part by part, making it easy to follow and understand.



Where loads are heavy,
they take plenty
of punishment, so

Be Sure of Your Shackles

By D. W. HUFF



In shipbuilding and stevedoring shackles are designed for heavy duty.

NO FITTING is more commonly used—and abused—than the shackle. It plays an important part in materials handling in every type of industry, particularly in shipbuilding and stevedoring.

Because shackle specifications on strengths and tolerances are not too difficult, new manufacturers are tempted to bid on government contracts. Some lots may be rejected and eventually find their way into surplus stocks; other lots may pass inspection although they were made by concerns lacking the experience and engineering skill to produce the best. The result is you may find yourselves asked to use shackles of questionable quality.

D. W. HUFF is Regional Sales Manager, Thomas Laughlin Division, American Hoist and Derrick Company. This article has been adapted from a paper presented at the Spring Meeting of the Marine Section, National Safety Council, in conjunction with the 25th Annual Convention of the Greater New York Safety Council, 1955.

Some knowledge of the manufacturing processes is helpful in knowing what to look for when inspecting and selecting shackles. Three methods are used:

1. Drop forging in a closed die to the finished shape. This process is usually confined to 1¼" size and smaller and assures a shackle of uniform shape and dimensions.

2. Upsetting the ends of a bar which has been cut to a predetermined length. After the ends are balled or upset, they are forged in a drop hammer in open dies to form the ears. Then they are reheated and bent into a final shape by a bulldozer or some other type of bender.

3. The upsetting forging method. This is done by upsetting the ends of a steel bar, forming the ears, punching the holes, and

one heat, from forging machine to bulldozer.

Upset forging or drop forging can produce good shackles if the dies and tools are properly designed and the operator is experienced. Poor die design, improper tools, or a careless operator will produce poor shackles. Laps or cold shuts, which appear as cracks, can be found in the ear of the shackle.

The ears may not be properly filled out. I have seen some unfilled places so large I could put the end of my little finger between the pin and the pin hole. This space usually appears on inside edge of the pin hole where an inspector can miss it.

Laps or seams at right angles to the contour of the shackle can be dangerous. Another weakness is a misshapen shackle due to improper bending. A shackle must

have the proper shape so that the load is in balance and remains there; a lopsided shackle is dangerous.

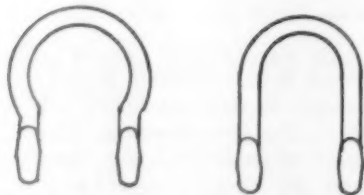
Chain shackles with their parallel sides have a higher safe working load rating than either round rings or pear-shaped rings. The chain shackle's oblong link, because it conforms more closely to the line of pull, has the greatest resistance to bending.

The most vulnerable part of a shackle is the pin. Since it is always "in shear" when carrying a load, the pin should be larger in diameter than the stock used in the bow. The full bearing surface of a shackle pin is seldom used, so the strain of lifting may be confined to a small section of the pin. When first being lifted the load may shift sharply to one side, throwing a shock load on one end of the pin and one side of the shackle, causing it to bend. This could happen even though the load being lifted is well below the Proof Load Rating (twice the working load in pounds) of the shackle itself.

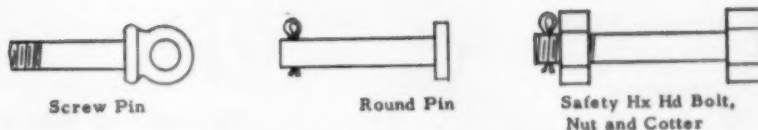
There are two methods of making pin holes: drilling and punching. The best way is to drill the pin holes with the shackle held in a jig to assure perfect alignment of the holes and a uniform diameter. Punched holes, either hot or cold, may be good or bad, but never as good as a drilled hole. Proper alignment of the holes is vital, so that the pin is not lower at one end, leaving the low end to carry the load.

Types of Pins

The screw pin is by far the most popular type, but should it be? I think the danger is greater than the convenience. The threaded end is smaller in diameter and



Anchor shackle (left) and chain shackle. The chain type, with parallel sides, has a higher safe working load rating than either round or pear shaped rings.



Types of pins. The screw pin is the least reliable; the round pin is satisfactory for general use; the safety pin is used for permanent installations.

has less strength and resistance to shear. The amount of reduction in area varies, but it averages approximately 30 per cent. If a screw pin is improperly aligned, with the threads at the low end, a sudden load shift to the weak end of the pin will bend the pin, making it difficult to remove.

The round pin is of uniform diameter the full length, so theoretically is stronger. If the shackle bow or pin should be overloaded enough to bend, the pin still can be removed. The shackle and pin can be straightened and used again. This pin is held by a cotter key which will do the job well if it's the proper size and type.

The safety shackle pin is a hexagon head bolt with a jam nut and a cotter outside the nut. The threads are cut up to the outside ear of the shackle, leaving the bolt full size through the ears. This prevents the shackle from spreading under excessive loads. Without the nut, the shackle could spread enough to shear off the cotter and let the pin slip out. It is used mainly for permanent installations where frequent visual inspection is not possible.

The Steel in Shackles

What is the shackle made of? No one can tell by looking, so you must depend largely on the reputation of the manufacturer.

Shackles are usually made of steel ranging from 1020 to 1040. Most manufacturers use 1020 or 1025 having an ultimate tensile strength per square inch of 55,000 to 65,000 pounds. Higher carbon steels are sometimes used for greater strength under certain conditions, but they can be brittle in extreme cold and more subject to fracture under shock loads.

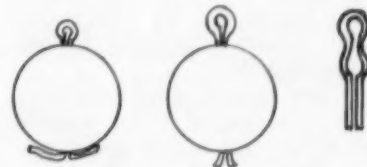
The pins or bolts should always be made of steel equally as strong

as that used in the shackle bows. Never use an ordinary bolt to replace a regular pin unless you are sure the steel in the bolt is at least as good as that in the original pin and is the same diameter. An ordinary machine bolt is not made to use "in shear" as a shackle pin.

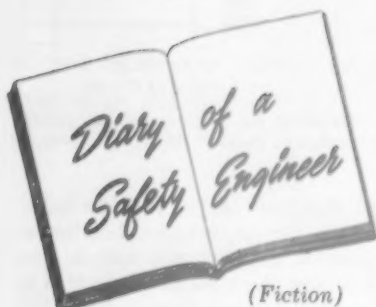
Inspection of Shackles

1. Know the safe working load and be sure it is strong enough for the job.
2. Be sure the stock in the shackle and the pin are full size.
3. Make sure the shackle has true shape.
4. Check to see that the pin is properly aligned.
5. Look for laps or seams at right angles or cross grained to the contour of the shackle.
6. Be sure the ears are filled out around the pin holes.
7. If a screw pin is used, make sure the threads fit properly.
8. If you're using a round pin or safety type, check to see that the cotter is the right kind and that the ends spread enough to prevent it coming out.

—To page 147



When a shackle pin is assembled with a cotter, it must be removed, installed and the cotter replaced by the user. The crimp cotter (right), is recommended. When driven into a hole the section under the head closes in and the ends spread enough to hold it in place during shipment. At installation the cotter is easily driven out. When the shackle is installed, the ends of the cotter are spread. The original cotter is safe to use because it has not been bent enough to weaken it.



The building was a mess, so why spend money on something that ought to be torn down? But the expenditure worked a near miracle in human relations

The Jail Is Bright

By BILL ANDREWS

September 7, 1955

IN THE SOUTHWEST corner of the Exsteel property stands Building No. 1. It was built in 1892, two stories, brick, with a sort of Norman turret concealing a water tank. Its narrow windows have cornices, and there is, believe it or not, colored glass in the curved window above the main entrance.

In the eyes of Chicagoans of the Mauve Decade, before the soot settled deep on it, it must have been a most handsome symbol of the blossoming American industrial system.

From the point of view of modern industrial design it is hideous, and to a safety man it is a nightmare—worn wooden stairs, main beams dry to the tinder point, almost unlightable, almost unventilatable.

It now houses, quite naturally, a hodgepodge of petty departments, for all major operations have been moved into the more modern buildings that have grown up through two generations.

The pattern shop is there. Also a small foundry that remained in place when the main foundry was installed in Building No. 7. The Old Foundry does a little experimental work and handles a few special and small orders be-

neath the dignity of the main foundry. The plant carpenter shop is in the old building, and so is the plant protection force locker room and a few other small units.

There are, I discovered early, a number of standard wise cracks at Exsteel about Building No. 1. It is sometimes called The Jail—a tribute to the bars on its windows and its general decrepitude. It is the Old Folks Home—because it contains a number of the older employees. It is sometimes known as Siberia, for obvious reasons. Its very existence is occasionally used by gripers as a symbol of the penny wise, pound foolish policy of the old management. "They're too tight even to tear down that old wreck!" Finally, there are very descriptive and quite accurate remarks on the smell of the ancient latrines.

But I also learned something else—in a curious, inverted way, Building No. 1 has a sort of esprit de corps. At the annual picnic, it entered its own team in the softball tournament against other teams which were organized on a straight departmental basis. It has its own team in the bowling league, and insisted upon its own column in the newly-launched plant publication. The foundry has had for years a bulletin board display of calendar pinup girls,

and the carpenter shop, which is against the south wall, has a line of window boxes ablaze with flowers.

Yet, organizationally, No. 1 has no existence. It is just a tent put over a group of entirely separate units, and the resulting confusion and decay make it a thoroughly miserable place.

* * *

So, in my early days at Exsteel, my mind turned elsewhere. I began a campaign jointly with the industrial engineering department to get material handling organized in the machine shops. I started some lighting reform in the main foundry. We got safety training underway among the foremen in the power press department, and I began the first tentative steps with the tool and die people to rethink the whole problem of guarding.

* * *

One day, shortly after I had turned in an inspection report on a major department highly critical of the housekeeping, I happened to walk into the department in time to overhear a sub-foreman lecturing his crew say, "You guys, I wanta see you get the lead out and clean this

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ELECTRIC CORDS AND FITTINGS

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1. The National Electrical Code recommends permanent installation of electrical wiring in rigid metal conduit, metal tubing, raceways, etc. Since it is not always possible to have these ideal conditions, with outlets or light sources located at the exact position for the job, electric cords and fittings are in extensive use.

2. These devices may be classified in three general groups:

- (a) Electric cords with fittings, used as extension cords for portable electric tools and equipment.
- (b) Cords with a lamp holder, referred to as portable hand lamps.
- (c) Cords with a lamp holder equipped with a convenience outlet in the handle, for use as either portable hand lamps or extension cords.

3. Although electric cords and fittings provide an easy way to enlarge existing electrical systems, it should be remembered that, at best, they can only supplement permanent installations. Plans should be made for their eventual elimination. Their selection, use, and maintenance should be closely supervised and personnel using them should be warned of hazards involved. Permanent receptacle outlets should be installed at convenient locations to limit the length of the cord required for the job. In all cases, both the number and length of extension cords should be kept at a minimum.

4. From a safety standpoint, use of this equipment involves a number of serious hazards. The cords are often placed carelessly in aisles and around work places, presenting tripping and falling hazards. The use of defective

This Data Sheet is one of a series published by National Safety Council, reflecting experience from many sources. Not every acceptable procedure is necessarily included. Data Sheets should not be confused with American Standard Safety Codes, federal laws, insurance requirements, state laws, rules or regulations, or municipal ordinances.

cords has caused serious, even fatal, electric shock and painful burns. Electric arcing may cause fire and consequent interruption of production schedules or even total plant loss.

5. A review of the following requirements should be made to assist in the proper selection and purchase of cords and fittings.

Voltage Applied to the Cord

6. The voltage impressed between the conductors or between conductor and ground should not exceed the voltage

rating of the cord itself. It is recommended that the power supply voltage be determined and checked against the voltage rating of the cord before it is put into use. This information can be obtained from the plant electrician, maintenance man, building engineer, from building plans, or from the local utility company.

Amperage of Attached Equipment

7. The amperage required by the equipment that is going to be connected to the cord can be determined from its stamped nameplate. If the plate is missing, the manufacturer can be consulted, specifications checked from a catalog, or a qualified electrician can test with an ammeter in the circuit. This information is necessary when checking the table in Figure 1. The proper size of wire can then be selected.

Amperage Rating of Over-Current Device Protecting the Cord Circuit

8. Over-current protection for conductors is provided to open the electric circuit if the current reaches an excessive value due to an overloaded condition or a short circuit. To protect cords against short circuit conditions that might arc and cause fires, the fuse should be checked for proper rating.

Temperature to Which Cord is Exposed

9. When the outer jacket of the cord is burned through, the cord is no longer water-resistant. The insulation can absorb water, resulting in a short circuit. If wires are exposed they may cause a shock to a worker in contact or

ALLOWABLE CURRENT-CARRYING CAPACITY OF WIRE IN AMPERES

SIZE A.W.G	RUBBER TYPES S, SO, SJ, SJO
	THERMO-PLASTIC TYPES - ST, SJT
AMPERES	
27	—
18	7
17	—
16	10
15	—
14	15
12	20
10	25
8	35
6	45
4	60
2	—

Figure 1.



Figure 2. Installation showing use of waterproof plugs and receptacles. (Courtesy Russell & Stoll Co.)

SIZE OF EXTENSION CORDS FOR PORTABLE ELECTRIC TOOLS

THIS TABLE FOR 115 VOLT TOOLS.

Full-load ampere rating of tool	0.2-00	2.10-3.4	3.5-5.00	5.10-7.0	7.10-12	12.1-16.0
Length of Cord	Wire size (B & S gage)					
25 ft.	18	18	18	16	14	14
50 ft.	18	18	18	16	14	12
75 ft.	18	18	16	14	12	10
100 ft.	18	16	14	12	10	8
200 ft.	16	14	12	10	8	6
300 ft.	14	12	10	8	6	4
400 ft.	12	10	8	6	4	4
500 ft.	12	10	8	6	4	2
600 ft.	10	8	6	4	2	2
800 ft.	10	8	6	4	2	1
1000 ft.	8	6	4	2	1	0

NOTE -- If voltage is already low at the source (outlet), have voltage increased to standard, or use a much larger cable than listed in order to prevent any further loss in voltage.

Figure 3.

might cause arcing which would result in fire.

10. When cords are to be used near high temperature operations where heat might damage the outer jacket, the manufacturer should be consulted for recommendations. Asbestos coverings, or special outer jackets may be recommended for use under these conditions.

Current-Carrying Capacity of Conductors in Cord

11. The conductors (wires) should be of such gauge that the current-carrying capacity of the cord will not be exceeded.

12. The length of the cord and the current which may be drawn through it should be considered because these factors will determine the voltage drop and the power loss to be expected in its use.

13. Figure 3 shows the relationship between the current which

may be used by a portable tool; wire size, and length of cord recommended to limit or reduce voltage drop.

Serviceability of Cord (See Figure 4)

14. As an example this Data Sheet applies to the heavier styles of cords, types S and SJ, which are suitable for shop use.

15. The type S cord is a heavy-duty cord with its conductors ranging in sizes from #18 to #10, and is surrounded by an insulating layer of rubber or thermoplastic suitable for 600 volts pressure. The insulated conductors are twisted together (not laid parallel) to make a round cord equally flexible in all directions. Space between conductors is filled with a cotton or hemp yarn to make a firm, round shape and to give tensile strength. The outer jacket is made of rubber, neoprene, or thermo-plastic. Protec-

tion against abrasion, water, oil, and chemicals depends upon the jacket.

16. With rubber outer jacket, the cord is known as type S; with neoprene outer jacket, SO (O meaning oil resistant); with thermo-plastic outer jacket, ST.

17. The physical tests of neoprene are comparable to those of rubber. The chemical qualities of neoprene; resistance to oil, flame, and sun, are much superior to rubber. Neoprene will absorb oil slowly but it does not dissolve in oil as rubber does.

18. A neoprene jacket will probably enable the cord to pass the Underwriters' Vertical Flame Test. In production work, cords are frequently hung or fastened so that repeated severe bending occurs at one point. If a short circuit occurs, the neoprene jacket will prevent travel of the flame along the cord, even though the rubber insulation and reinforcing

DESCRIPTION OF TYPES OF FLEXIBLE CORD

Trade Name	Type Letter	Size AWG	No. of Conductors	Insulation Braid on Each Conductor	Outer Covering	Use		
Junior Hard Service Cord	SJ	18, 16	2, 3 or 4	Rubber Thermo-Plastic or Rubber	None	Rubber	Pendant or Portable	Damp Places
	SJO					Oil Resist Compound		
	SJT					Thermoplastic		
Hard Service Cord	S	6 18, to 10 incl.	2 or more	Rubber Thermoplastic or Rubber	None	Rubber	Pendant or Portable	Damp Places
	SO					Oil Resist Compound		
	ST					Thermoplastic		

Figure 4.

strings inside the jacket are combustible.

19. Neoprene jacket is a little stiffer than rubber jacket, and it stiffens noticeably at a temperature of 30 to 40 degrees F. In colder localities, rubber jacketed cords may be preferable for outdoor use. In warm weather, rubber's tendency to sun-crack makes it less suitable for outdoor use.

20. Thermo-plastic is comparable to neoprene; however, it will stiffen more rapidly with cold.

21. Type SJ cord (J for Junior) is made only in conductor sizes #16 and #18. It is rated for 300 volts and is smaller, with a thinner jacket. The average extension cord for portable electric tools or portable hand lamps is the SJ type.

22. Flexible cords are not intended as a substitute for permanent wiring. Cords should not be attached to building surfaces; run through holes in walls, ceilings, or floors; run through doorways or windows or concealed behind building walls, ceilings or floors.

23. When cords must cross areas frequently used by personnel or plant traffic, they should be covered by boards which will form a bridge, constructed so as not to cut or lay on the wires. In some cases the cords can be strung overhead but they should be located high enough to clear ladders carried beneath, or lift trucks operating under them.

24. As a warning, colored adhesive tape can be wrapped around the cord every foot in length to attract attention to those who might come in contact with it (this should not be done to cover defective spots).

25. A cord should not be pulled or dragged over nails, hooks, tools, or other sharp objects which may cause cuts in the insulation. Pinch points should be watched especially in areas where there are closing doors or lids on equipment.

26. Suspended cord reels are recommended when they can be



Figure 5. When cords must be strung temporarily across passageways a colored striped adhesive tape can be applied as a warning and to keep cord secured to the floor. This prevents tripping hazards.

placed in locations where a power source or a portable light is needed frequently. This device pulls the cord out of the way when not in use, yet is handy and available for service when needed. To use the reel, it is necessary only to reach up and pull out the extension cord. When the workman is finished with the light he simply releases it and allows the winder to reel the cord up in an overhead position. These reels are so constructed that the cord can be pulled at any angle without damage to insulation.

27. A cord reel can be used in hazardous locations providing the

equipment is approved not only for the class of location, but also for the specific gas, vapor, or dust that will be present.

28. Hazardous locations have been defined by the National Electrical Code as those where hazardous dusts or vapors exist. Equipment for use in such locations should be approved by the Underwriters' Laboratories or other certifying agencies. In the event that explosion-proof equipment is required, extra care and precaution should be taken to prevent damage to the cord supplying the current.

Use of Cords, Receptacles, and Attachment Plugs in Hazardous Locations

29. Electric cords may be used only for connection between a portable lamp or a portable appliance and the fixed portion of its supply circuit. Where used, cords must:

1. Be of a type approved for extra hard usage such as S, SO, and ST.
2. Contain a grounding conductor in addition to the circuit conductors. On two-wire cord, white is ground. On three-wire cord, green is ground in the United States.
3. Be connected to terminals or to supply conductors in approved manner.
4. Be supported by clamps or by other suitable means so that there will be no tension on terminal connections.



Figure 6. Cord reels are recommended when they can be placed in locations where a power source or a portable light is needed frequently. This device pulls cord out of the way when not in use.



Figure 7. To keep extension cords off floors an enclosed track containing an electric feedrail and a movable plug-in unit with a take-up reel can be installed. (Courtesy Feedrail Corp.)

5. Be provided with suitable seals where flexible cords enter boxes, fittings or enclosures of explosion-proof type or equipment which is required to be dust-tight.

30. Where flexible cords may be exposed to liquids having a harmful effect on the conductor insulation they should be of a type approved for use under such conditions.

31. Receptacles and attachment plugs should be of the polarized type providing connections to the grounding conductor of the flexible cord. They should also be approved for their National Electrical Code Class locations.

32. When explosion-proof and dust-tight cords and attachments are used, they should be connected only to approved receptacles for the Class location. Non-approved receptacles may cause arcing at the plug. Care should be taken to avoid adding switches or other devices in the line which might cause arcing.

Extension Cord Fittings

33. Extension cords should contain an equipment grounding conductor separate from the circuit conductors. The grounding conductor should have a continuous

identifying mark consisting of a green color braid or green insulation.

34. Receptacle and attachment plugs should be of a polarized type which provides a connection for the grounding conductor of the cord.

35. It is recommended for wire sizes #14 and larger, that heavy-duty plug caps be used on the ends of extension cords and that they be constructed so as to lock themselves into position in the receptacle. It is also recommended that plug caps contain cord grips that can be adjusted to prevent tension on the terminal connections. Another method is to tie an Underwriters' knot in the wires within the plug cap before fastening to the terminal screws.

36. When flexible cords are used they should be in a continuous length without splices or taps. Where it is necessary to extend the length, locking cord connectors should be used. For heavy-duty use, these cord connectors should have cord grips to prevent tension on the terminal screws when pulling on the cord itself.



Figure 9. Polarized cord connectors with a separate equipment grounding conductor. When plugged together, a continuous ground conductor (green color) is established from the attached equipment to a ground source. Cord above has Underwriters' knot tied within the plug cap to prevent tension on terminal screws if cord is pulled. Cord below has metal cord grip.

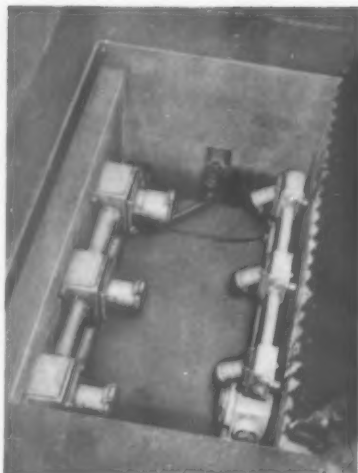


Figure 8. Explosion-proof receptacle in service pit of large airport. (Courtesy Russell & Stoll Co.)

37. For use in packing plants, breweries, bottling plants, tunnels, etc., cord connectors can be purchased that will lock together and be sealed against moisture. In addition, if they are made of rubber there is protection against breakage.

38. Multipole cord connectors can be purchased which will permit the grounding of two-wire as well as three-wire devices.

39. Use of lamp guards on extension cords can prove exceedingly hazardous if proper care in selection of equipment is not exercised. Fiber-bakelite or rubber-insulated guards should be used where there is a possibility of the guard coming in contact with an electrical circuit. This insulated equipment is also excellent when the extension cord is being used in work areas or operations where acid is used regularly.

40. "Rough Service" lamps are recommended for use by mechanics and others who use extension cords daily. The filament is constructed to withstand impact and vibration from machines which account for much breakage and burnout.

41. Lamp guard handles should be made of a high grade rubber compound or other suitable mate-

CONNECTIONS OF CORD CONDUCTORS TO ATTACHMENT-PLUG CAPS (THE FACES OF THE CAPS ARE REPRESENTED BELOW)

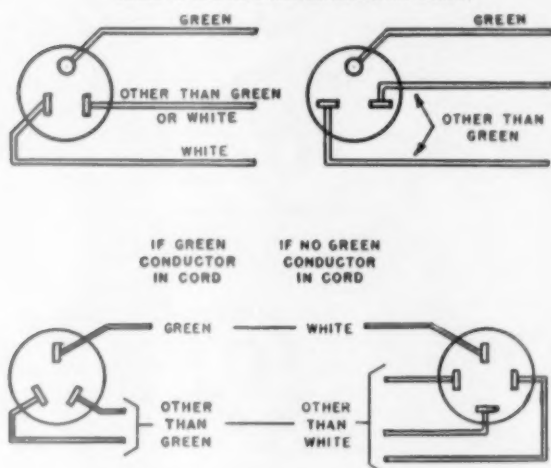


Figure 10. In the two upper illustrations, the blade to which the green conductor is connected may have a U-shaped instead of a circular cross section. In the lower left illustration, the representation of a radial blade also signifies a blade having an L-shaped cross section. (Courtesy Underwriters' Laboratories, Inc.)

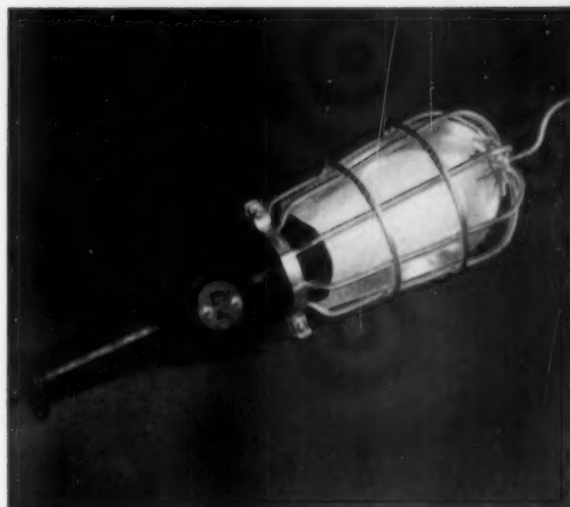


Figure 11. Lamp guard with built-in polished reflector, hanging hook, side outlet, and one-piece molded rubber handle completely covering electrical connections. (Courtesy Daniel Woodhead Co.)

material that will give maximum insulation, durability, and resistance to oil. The handles should be waterproof at the end where the cord enters the handle. If the handle is made of rubber compound it is recommended that it be one-

piece molded rubber compound enclosing a socket with a water-tight lip that seals when the bulb is inserted. The rubber should extend over the socket and lamp terminals for complete electrical protection.

42. Cords should be disconnected from receptacles before attachments are inspected, adjusted, repaired, or replaced. This practice should be followed whenever repairs are to be made or portable equipment is to be

PORTABLE EXTENSION LAMPS

(General Suggestions)

1. Always use a well guarded lamp.
2. If flammable liquids, vapors or dusts are present, make sure that you are using a safe type of lamp and guard; ask your supervisor if you are not entirely sure.
3. Avoid using a lamp with frayed or badly worn extension cord, loose connections, or a broken plug or socket.
4. Do not try to patch the insulation of a defective cord; get a new cord.
5. If the cord is too short to reach the necessary distance, do not splice it; get a new cord or another extension.
6. It is bad practice to pull on the cord to disconnect a wall plug; the wires may be loosened or pulled free from the socket.
7. Pulling a cord by the lamp socket is bad practice, because the cord may catch and be pulled free.
8. Dragging a cord over nails, hooks, tools or other sharp edges may cause cuts in the insulation and short circuits; if flammable vapors or dusts are present an explosion might result.
9. Do not allow the extension cord to touch acids, oil, solvents, or even water, unless it has a proper kind of insulation to protect it.



SAFETY INSTRUCTION CARD No. 67

Figure 12.



Figure 13. A simple method of soldering splices or twisted ends of wire to prevent stranding. Ribbon solder contains rosin flux and is melted with the heat of a match.

serviced, because the equipment control may not always be disconnected from the hot side of the line even though the switch is in the "Off" position.

43. The control switch on electrical equipment should be in the "Off" position before the attachment plug is inserted. This precaution prevents arcing at the attachment plug cap during a heavy inrush of starting current.

44. A switch and receptacle of the type where the plug must be inserted before the switch can be closed and the switch put in the "Off" position before the plug can be removed, are available.

Inspection and Repairs

45. Extension cords should be inspected regularly. Frequency of inspection depends upon their use and conditions to which they are subjected. They should be wiped clean with a piece of waste or rag and examined for small breaks, abrasions, and defects in the jackets. Attachments should be inspected for looseness, arcing conditions, or other mechanical defects.

46. Cords with worn or frayed jackets should be replaced and if the cord is damaged it should not

be spliced. The damaged portion should be cut off and the good cord attached to a cord connector so that the two ends can be re-joined properly or the cord made in shorter extensions.

47. When stranded wire is connected to equipment terminals, a minimum amount of insulation should be stripped from the ends of the wire. The strands should be twisted together tightly, wrapped around the terminal screw in the direction it is tightened, and the extending end of the wire cut short to prevent stray strands from contacting the metal frame or enclosure. Another method is to dip the twisted ends into solder to prevent stranding.

48. Assembly and repair of flexible cords should be done by qualified personnel.

ACKNOWLEDGEMENT

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volving the operation or construction of nuclear reactors, only the Soviet Union failed to respond to the Forum survey.

In the planned-for-construction category, Great Britain leads the world with 22, the U. S. is second with 16, and other nations follow in this order: France—3, Belgium—1, Canada—1, Italy—1, the Netherlands—1, Sweden—1, Switzerland—1, and West Germany—1. In addition, there are 23 nations (as of July 28) which may now build small research reactors under bilateral "agreements for cooperation" with the U. S.

The survey reports on 17 nations known or believed to possess workable deposits of uranium, and on 4 nations known to possess thorium.

The survey also cites the available information on the organization and principal personnel of the atomic energy programs in the countries covered, their principal laboratories and research centers, the major physical research equipment they possess, their activities in the utilization of radioisotopes, their international arrangements for cooperation, and their objectives and plans for the future.

The Forum's international survey also describes the program of bilateral "agreements for cooperation" with other countries undertaken by the U. S. under the Atomic Energy Act of 1954, and includes complete texts of the agreements with Belgium, Canada, the United Kingdom, and Turkey.

Issue World Survey On Atomic Energy

AN INTERNATIONAL survey of atomic energy development, the results of which were released recently, reveals that there are currently 42 nuclear reactors known to exist in the world.

The survey, which took a year to complete and is entitled *World Development of Atomic Energy*, was conducted by the Atomic Industrial Forum, Inc., and covers 32 nations which have officially reported, or are otherwise known to have, substantial atomic energy activity.

Of the known reactors of the world, many of which were described at the United Nations Conference on the Peaceful Use of Atomic Energy (in Geneva,

Switzerland, August 8-20), 29 are located in the United States, 5 in Great Britain, 2 in France, 2 in Canada, 1 in Norway, 1 in the Soviet Union, 1 in Sweden, and 1 in Switzerland.

In addition, the survey shows that 20 reactors are currently known to be under construction: 9 in the U. S., 3 in Great Britain, 3 in France, and 1 each in Australia, Belgium, Canada, India, and the Soviet Union.

It is generally assumed that additional reactors are in existence and under construction in the Soviet, but the Soviet government has not announced them. Of the nations of the world known to have atomic energy programs in-



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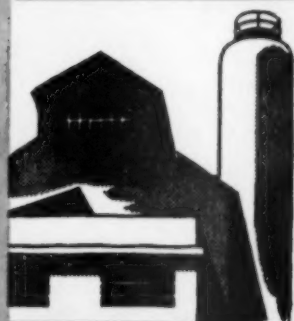
THINK
THE BEST
SAFETY DEVICE
IS A CAREFUL WORKER
GET THE SAFETY HABIT

A FIRE
MIGHT PUT EVERY
ONE OUT OF WORK
HELP THE MANAGEMENT
PROTECT YOUR JOB
NO SMOKING

NOTICE
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Diary

—From page 34

place up. Jeez, it looks pretty near as bad as The Jail, an' if we don't straighten up, it'll stink as bad before we know it."

Later that same day, I was walking toward the gate, and there, in front of No. 1 was a plant guard in coveralls, a carpenter, and a foundryman all working away, whitewashing some rocks that line the walk to the main entrance of the building.

* * *

By next morning the idea was clear in my mind, and I laid it out for the general manager. "Look," I said, "I need something to dramatize housekeeping to the whole plant. No. 1 has the reputation of being the scummiest place on the property. But there's a will there to do the job. Give 'em some money, and we'll make that a real example of what the right spirit can do for housekeeping."

The GM said several things—that it was foolish to plough money into a wreck that ought to be torn down; that the physical condition of the building made improvement expensive and difficult; that any major changes had to be checked and approved by the industrial engineers, the designers, the departments of which some of the No. 1 units were a part.

I answered that: (1) there was no prospect for tearing down and replacing the structure, even in '56, since the budget provision for that had not been made; (2) that the bad physical condition, though it precluded major remodeling, made minor repairs essential; (3) that I was after a psychological victory for safety, not industrial efficiency, so the red tape could be cut; and (4) that the repercussions throughout the plant would repay many times the \$5,000 I wanted to see spent.

The GM flinched at the \$5,000, but I got him to take a good slow walk through No. 1. I harped long on the symbol of decay that it represented, like a slum on the edge of a good residential neigh-

Advertising a Seven-Year Record



A NATIONAL SAFETY COUNCIL jumbo poster and an award certificate blown up to five times original size make a novel display at the U.S. Naval Submarine Base, New London, Conn.

The certificate represents the Secretary of Navy Award for Achievement in Industrial Safety, received by the base for seven consecutive years.

Shown left to right are Capt. J. E. Lee, commanding officer of the base; R. J. Davis, safety engineer; Henry J. Snellman and Constanzo Occhionero, employees whose eyesight was saved through the use of safety glasses and who will soon become members of the Wise Owl Club of America under the base's new charter, and Joseph J. Lochrie and Ernest J. Sylvester, safety suggestion winners.

borhood, and on the community relations angle. Eventually he okayed \$4,000.

I held a meeting of all unit heads in No. 1, told them my scheme. Each unit was to do a major cleanup of its space, with full freedom to maintain such ancient privileges as pinups and window boxes. Most of the money was to go to enlarge and re-equip the two latrines, to retread the stairs, to paint up and light up, to install fans on the upper floor, and to exterminate rats in the basement.

* * *

In three weeks the place was beginning to shine, and the men in the carpenter shop made a large sign reading, "No. 1 is the most improved shop in the Ex-

steel plant." They hung that sign over the entrance, which is right alongside the main gate where all employees punch in and out every day.

This morning, I took the plant safety committee on a tour of No. 1, showing them the freshly painted aisles all clear of junk, the latrines that don't stink, the new stairs, the lighting. But most of all I meant them to be impressed by the pride of the No. 1 employees in the spotless cleanliness and neatness of their space, standing out in shining contrast to the ugly bleakness of the building itself.

The committee members stared and went back to their departments with, I think, a grim resolve to put into practice the lessons they learned this morning.



High shoe (4111). Four eyelet, three hook, plain-toe design. Leather-lined steel toe box. Tri-Vac sole.



Low oxford (4381). Plain-toe blucher. Leather-lined steel toe box. With neoprene Tri-Vac sole.

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CASES for COMMENT

Compiled by FRANKLIN G. PATER

Senior Engineer, Industrial Department, NSC

Before Starting Work

On the day of the first report of the injury the employee reported to the first aid room and stated she had hurt her foot in some way. At first she did not recall how the injury came about but later she remembered bumping her foot on a metal bar on the bottom of a table in the cafeteria. Apparently, she bumped her left instep while sitting down.

She recalled that this accident happened four days previously at approximately 6:30 a.m.

This employee's work day starts at 7:00 a.m. She arrived early and punched the time clock at the personnel entrance before going into the cafeteria for a cup of coffee. In this plant, it is necessary for employees to punch two time clocks. The first is located at the entrance to the plant and can be punched at any time. Time cards from this clock are used more or less for an attendance check.

When the employee reports to his department for work, he punches another time clock there. There are limitations as to the number of minutes that can be shown on the time card previous to the official time for the work to start. The departmental time cards are the ones used to determine payrolls.

Since this employee had not yet punched the departmental time clock she was not officially into her working day. The plant does not require the employees to arrive one-half hour early to drink coffee in their cafeteria. However, it is a common practice for the employees to arrive early and to spend some time in the cafeteria.

Two days were lost because of the injury.

Decision. The Committee on Interpretations decided that the

injury to this employee should not be included in the industrial injury rates on the basis that the injury did not arise out of, and in the course of employment.

Comment. While this accident did not happen on the job, it happened on company-controlled property. The company might determine the reason for the injury in the cafeteria and take corrective steps to insure that this accident will not happen again. The company lost the valuable service of the employee, and the employee lost time and wages.

"Extracurricular Work"

An employee assigned to work as a craneman came down off the crane during his lunch hour and began to grind the blade of a knife on a stationary chisel grinder. The knife, constructed of an aluminum handle and a steel blade, was the type used for cutting linoleum.

The employee stated that he had the knife in his possession a week previous when called to the hospital due to an accident suffered by his daughter. He stated that he did not see the knife again until the night he was grinding the blade on the grinder. Another employee, a repairman, cut off the stock handle of the knife on a metal saw about two hours previous to the time the crane-man was grinding the knife on the chisel grinder.

As he was grinding, the blade evidently caught between the wheel and the tool rest in such a way that the blade broke and wedged his hand against the wheel, causing a deep laceration across the palm of the hand, with a laceration on the tendon of the ring finger. After the injury, the employee stated he felt it was only a small laceration, and that he did not pay any attention to it

at the time. He said he left the grinder to return to the crane for his lunch, going up the ladder and reaching into the crane cab from the ladder. He stated that he fell while descending the crane ladder, and then returned to his feet with his lunch in his hand and walked about 20 feet to sit down near a gas stove and eat his lunch. At that time he noticed that his hand was bleeding very badly and he hurried to the plant hospital.

The blade and the handle of the knife were found inside the guard of the stationary chisel grinder. Aluminum particles were observed on the grinding wheel and blood stains were observed on a small casting near the grinder.

Decision. The Committee decided that this injury should not be included in the industrial injury rates on the basis that the employee had taken himself out of employment when he started sharpening his own knife; he was in no way furthering the interests of his employer in connection with his injury.

Comment. Several questions might be asked concerning the circumstances surrounding this case: "Was the work rest more than 1/8th of an inch from the wheel?" Also, "Was the wheel guarded in such a way that it presented a hazard rather than a safeguard? Were the guards properly adjusted?"

We cannot always, in similar cases, feel that it was just a lack of supervision or training on the part of the employee that might have caused the accident. It could possibly be the mechanical equipment, even though the employee was doing "extracurricular" work.

Falling Ladder

Members of the maintenance labor gang were cleaning windows inside the plant. At some locations the window cleaners had to work over the heads of production employees. When the window cleaners changed positions, the ladder had to be moved. Before moving it, the man handling

—To page 60

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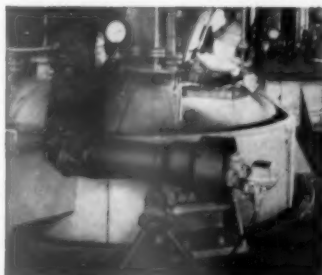
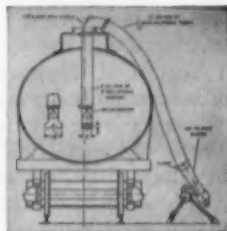
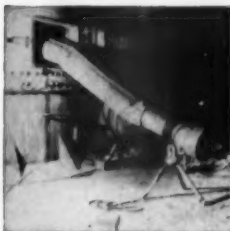
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Wire from WASHINGTON

By HARRY N. ROSENFELD

Washington Counsel, National Safety Council



The first session of the 84th Congress adjourned after the customary last-minute flurry of legislative activity. Some safety legislation was enacted into law, and other proposed laws affecting safety were left at one stage or another in the legislative process, for consideration during the second session of the 84th Congress which begins in January, 1956. All bills introduced or considered during the first session resume their status in the second session where they left off.

The following is a round-up of selected safety legislation considered during the first session, where it reached the stage of enactment or positive committee consideration.

Industrial Safety. S. 928 became Public Law 159. It amends the Water Pollution Control Act so as to provide for the control of air pollution, and authorizes the appropriation of \$5 million a year for five years for the Department of Health, Education and Welfare, and grants-in-aid to the States for dealing with the problem of air pollution.

H. R. 7066, which became Public Law 162, authorizes an expenditure of \$8½ million to assist Pennsylvania in temporary measures for flood control in the protection against anthracite mine damages.

Several other bills were along the legislative route but had not advanced to the point of becoming law. S. 890, which would extend and strengthen the Water Pollution Control Act by authorizing a \$10 million, five-year, program of grants to the states, was passed by the Senate and reported favorably, with amendments, by the House Committee on Public Works. However, the

session ended before the House Rules Committee granted a rule for its consideration on the floor of the House.

H. R. 3547, which would provide tax encouragement to the prevention of air and water pollution by allowing the cost of treatment works for their abatement to be amortized at an accelerated rate for income tax purposes, was approved in substance by the House Ways and Means Committee but not actually reported out before the Congress adjourned.

Marine Safety. At least four bills in the marine safety field were approved by the Senate but were still awaiting House action when the Congressional session ended. These bills are: S. 460, to require river steamers to have approved life preservers for each person of their authorized capacity, including crew; S. 743, for biennial inspection of hulls and boilers of cargo vessels; S. 1378, to clarify and consolidate authority to require the establishment, maintenance, and operation of aids to maritime navigation on fixed structures, and S. 1791, requiring the same lights for sail-machinery boats as for motor boats.

In addition, H. R. 4090, reported favorably by the House Committee on Interstate and Foreign Commerce, would require the installation of radio-telegraph call selectors on U. S. cargo ships with less than two radio operators.

Aviation. S. 1855, now Public Law 211, provides for a four-year program of airport expansion, with \$252 million for grants to states and cities.

S. C. Res. 16 would set up a joint congressional committee to study all aspects of the common system of air navigation and of air navigation facilities, and report thereon to the Congress. This measure was passed by the Senate but the House took no action on it.

Highways. Both the Senate and the House considered highway legislation, with the method of financing being the major controversial issue. The Senate passed S. 1048, and rejected the Administration's bond financing proposal in favor of a five-year construction program on an expanded grants-in-aid basis. The House Public Works Committee approved H. R. 7424, for a 12-year \$48½ billion dollar construction program, but the House (after rejecting the Administration's financing proposal) rejected this measure by a vote of 123-292 because of the tax-financing involved in the bill.

Fire. S. 1006, which became Public Law 46, authorizes reciprocal fire-fighting agreements between government agencies and public or private agencies.

Home Safety. The Senate passed S. 1455, to exempt certain kinds of scarves from the application of the Flammable Fabrics Act. But the House of Representatives refused to consider for this session the similar House Committee-approved H. R. 5222.

Hearings were held on H. R. 2181, to require safety closing devices on doors on household refrigerators shipped in interstate commerce.

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We are happy to offer this volume, free of charge, as a service to industry in its fight against Industrial Dermatitis. Dedicated to sound research on each and every single SBS industrial skin cleanser, it is with pride that we became part of the group effort that compiled this book. Our sincere congratulations are extended to the Association for their perseverance in this important project. We urge you to send for this study—it's truly a milestone of progress in the prevention of Industrial Dermatitis.



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GREEN CROSS NEWS

Activities of Local Safety Councils and Chapters

By TOM A. BURKE, Assistant Director, Western Region, NSC

Dow Award Luncheon

A "blue ribbon" affair attended by 40 interested citizens of Vancouver, B.C., was the award presentation luncheon in honor of Colin Dobell, winner of the Marcus A. Dow Award, held in that city July 18 at the Astor Hotel. The Vancouver Traffic and Safety Council with the British Columbia Electric Company, Ltd., hosted the colorful affair and to carry out the blue ribbon idea, the invitations were printed in gold on blue silk ribbon.

In his speech of acceptance, Mr. Dobell referred to winning the Dow Award as "the highlight of my life." In addition to the handsome plaque from the National Safety Council, he was also presented with the \$500 check from the Greyhound Corp., joint sponsor of the Dow Award project. The awards were made by Paul F. Hill, director, Field Service Department, NSC, Chicago.

Colin Dobell is director of transportation, training and safety for the British Columbia Electric Railway Company, Ltd., and a member of long standing and past president of the Board of the Vancouver Traffic and Safety Council. In 1952 he became the first Canadian to be elected general chairman of the National Safety Council's Transit Section.

Among his many contributions to public safety has been his work to provide driver education for high school students throughout British Columbia, the promotion of chemical tests for intoxication in the province, and personal assistance to any trucking firm desiring help in setting up a comprehensive accident prevention program.

Mr. Dobell is the fourth win-



Colin Dobell (right), director of transportation, training, and safety for the British Columbia Railway Company, receives Marcus A. Dow Award from Paul F. Hill, director, Field Service Department, NSC.

ner of the Marcus Dow Memorial Award, established by the National Safety Council, and sponsored by the Greyhound Corp. to recognize, reward, and foster high standards of professional achieve-

L. W. VAN AKEN

L. W. Van Aken, immediate past president of the Greater Los Angeles Chapter of the National Safety Council, died suddenly at his home in Los Angeles July 22, following a heart attack. He was widely known in the insurance field as resident manager of the Lumbermens Mutual Insurance Company in charge of West Coast operations. His active interest in community safety and the work of the Los Angeles Chapter proved a powerful influence in the growth of the organization during the three years he served as president. He was a leader in many civic activities in the Los Angeles area, and had been active in the work of the Chapter for many years as a board member and officer.

ment in the field of motor transportation safety. Previous winners were K. N. Beadle, safety director, Pacific International Express Co., Oakland, Calif.; Carlton Alexander, director of safety, McLean Trucking Co., Winston-Salem, N. C.; and E. J. Emond, director of automotive safety, Armour and Co., Chicago, Ill.

The award was named in honor of the late Marcus A. Dow, pioneer fleet safety engineer and first general safety director for Greyhound.

The Marcus A. Dow Memorial Award Lecture will be delivered by Mr. Dobell before a joint session of the Commercial Vehicle and Transit Sections at the National Safety Congress, Thursday morning, October 20.

BB Gun Movie Filmed

A 16 mm color-sound movie on the Omaha Firearm Safety Program is now being filmed in Omaha, Neb., by the Daisy Manufacturing Company in cooperation with and under the direction of the Omaha Safety Council.

Harry Hatcher, Omaha Safety Council manager, reports that the film, *On Target For Safety*, is intended for national distribution and will show how a community can intelligently combat BB gun accidents to children.

At the present time, Omaha has 28 BB gun clubs with 450 members who meet weekly for instruction by police and Offutt Air Force Base personnel. An annual tournament is held at the Air Force Base.

Fire Protection Clinic

A one-day fire protection clinic sponsored by the Fire Prevention Committee of the Chamber of Commerce Safety Council of Fort Wayne in cooperation with the Fort Wayne Fire Department and the city and county public and parochial schools was held in August for school maintenance personnel, custodians, and firemen. The clinic provided instruction in the basic techniques of fire protection in school buildings, and was timed to precede the September opening of schools. Instructors included personnel



Safety CAP has narrow brim at sides and back, visor in front. Weight 12-1/4 oz.



Safety HAT has full brim for greater all around protection. Weight 14 oz. Chinstrap is optional.



Impact Test • Here, eight-pound ball, dropped five feet, measures the force of impact transmitted to the head of the wearer (here simulated by a wooden headform). Jackson Safety Hats withstand this test well within the specified limit.

Outside, they're FIBER GLASS

Compression molded of glass fibers and polyester resins, Jackson Safety Hats and Caps are made of the same miraculous substance that's sweeping the country in countless new applications. Combining lightness and resilience with toughness and strength, fiber glass provides the strongest protection per unit of weight. Strong, two-way ribbing on the crown, and heavy edges along the brim resist impact from all sides.

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For identification of workers by trade, Jackson offers Safety Hats and Caps in grey, white, yellow, orange, green, blue and brown. Other colors may be furnished on quantity orders.

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The headband of extruded plastic, far firmer than the usual headband materials, is durable, holds its shape, and gives better fit. It allows easy, yet positive individual fitting, is clearly marked off in hat sizes. A cork-lined sweatband adds comfort, is easy to replace.

Hammock straps of webbing give adjustable support on top of the head and provide the required safe distance between head and hat shell.

Headband and hammock straps button to the inside of the hat shell, leave ample room for all around ventilation.

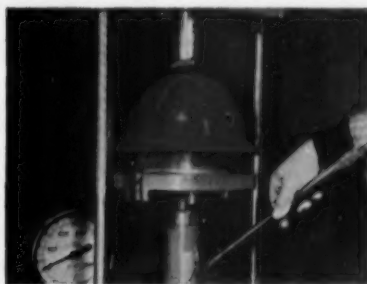


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They exceed the requirements of Federal Specification GGG-H-142b when tested for *electrical resistance, impact, penetration, flammability, and water absorption*. Their weight is well below the specified limit. Two of these tests are described at the right.

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Pointed steel 16-oz. plumb bob, dropped 10 feet squarely onto center of hat crown, causes only slight penetration, well below the specified maximum. No damage is caused to headband and crown straps, nor to the wooden headform supporting the hat in this test.



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of the city fire department, insurance companies, and industrial plant protection departments.

More Inventory Sections

Sections of the Inventory of Chapter Operations dealing with organization, administration, and financing are now being developed by the Conference Committee and will be mailed to chapters within the next few weeks, according to Jim Ashton, Conference committee chairman for the Inventory.

Every effort has been made to reduce forms to a minimum which will still supply essential information as determined by the Conference at its last meeting. Whenever possible, chapter documents already in existence are requested in lieu of materials prepared exclusively for the Inventory.

It is anticipated that a full report based on data gathered from the completed Inventory will be ready to present to the Conference at its October meeting.

Members of the Conference Committee on the Inventory of



Ronald Reagan, star and program director of "General Electric Theater" television program and James Blalock, president of the Greater Los Angeles chapter of the National Safety Council, examine safety equipment. Gloves, glasses, and other safety devices, which have made employment at General Electric safer than home, were featured on a commercial during the July 24 performance of the CBS-TV program.

Chapter Operations are: J. James Ashton, chairman, Delaware Safety Council; B. L. Corbett, Milwaukee Safety Commission; H. G. J. Hays, Ohio State Safety Coun-

cil; W. Russell Hicks, Hamilton Safety Council; Joseph M. Kaplan, Los Angeles Chapter, NSC; Walter D. Ladd, St. Joseph Safety Council; James K. Williams, Western Massachusetts Safety Council (now New England District Representative, NSC).

School Honor Roll

The National School Safety Honor Roll, which provides national recognition for exceptional effort in school safety education for individual schools, has shown phenomenal growth according to Wayne P. Hughes, director, NSC School and College Division. In 1953, only 295 public and parochial schools participated. In 1954, the number increased to 605, and to date in 1955 more than 1,360 applications have been received from schools in 37 states and the Territory of Hawaii.

Lists of Honor Roll schools and bulletin letters have been sent to all NSC chapter managers inviting them to present Honor Roll certificates to award winning

—To page 135

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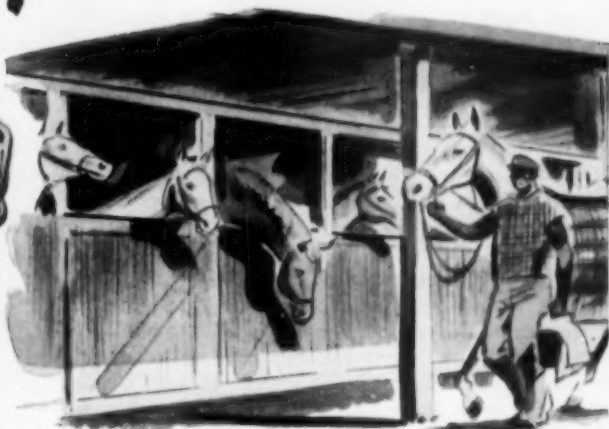
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INDUSTRIAL HEALTH



Abstracts of current literature
on Industrial Hygiene, Medicine, and Nursing

BY F. A. VAN ATTA

Industrial Department, NSC

Nitric Acid

Injury and Death from Red Fuming Nitric Acid by A. J. McAdams, Jr. and Steven Krop.

Red fuming nitric acid and white fuming nitric acid are being used in increasing quantities, both by industry and by the armed services. The concentrated acids are extremely corrosive fuming liquids with varying amounts of dissolved oxides of nitrogen which are evolved together with a spray of acid when the red fuming nitric acid is exposed to the air or when the white fuming nitric acid is brought into contact with oxidizable materials.

The reddish brown fumes are a mixture of nitrogen dioxide and nitrogen tetroxide in proportion which depends upon the temperature and pressure. Both nitrogen dioxide and nitrogen tetroxide form nitric acid on contact with water, and equally on contact with the body fluids. The material released by nitric acid may contain also some nitric oxide which is fairly rapidly oxidized to nitrogen dioxide on contact with the air, but which is a rather strong cerebral depressant, if inhaled in the unoxidized form, which can happen if the original concentration is high.

As a result of these different compounds being present in different amounts there are wide variations in the symptoms of poisoning by oxides of nitrogen. The nitrogen dioxide gives the typical irritant gas type in which there are early signs of local irritation followed by a latent period of a few hours and then the development of liquid in the lungs to the cerebral poisoning type with signs

of dyspnea, vomiting, dizziness, signs of suffocation, and sometimes unconsciousness.

Late complications may be broncho-pneumonia, bronchitis and bronchiolitis obliterans, in which the major air passages are obliterated.

In the present instance one chemist was showered with red fuming nitric acid in a laboratory accident and received severe skin burns and lung injury from which he recovered after a month of hospitalization. One of the chemists who came to his assistance was hospitalized 21 days later with bronchiolitis obliterans and he actually died of the effects.

Radioactive Contamination

Radioactive Contamination in a Radium Therapy Clinic by Robert G. Gallagher, Mitchell R. Zavon and Henry N. Doyle. Public Health Reports 70:617-624 (July, 1955).

This radium therapy clinic had been in operation in the same buildings in Baltimore since 1904 when it was decided to move to new quarters in 1952. The building was a converted 3-story brick duplex residence and at one time an adjacent building was used as a hospital. Half of the duplex housed laboratories and treatment rooms, and the other half primarily offices and service rooms.

The radio chemical laboratory and some preparation, surgical, and treatment rooms were in a wooden structure added to the duplex and the radon emanation plant was in an elevated brick vault in the rear of the structure by a walkway. There had been two fires in the wooden structure in recent years, one of which in-

involved radio chemical equipment.

A radiation survey was made with the object of evaluating the fixed and removable contamination of the building and fixture services and air samples were made in the area of capsule preparation and filtration of radioactive materials.

Fixed radiation alpha particle counts as high as 30 million disintegrations per minute were recorded in places in the clinic of which 25,000 disintegrations per minute were of removable alpha contamination. This compares to a maximum of 500 disintegrations per minute now considered as the permissible level.

Floors, furniture, carpets, and medical equipment were all found to be contaminated with radioactive materials and the adjacent building which had been used as a hospital 15 years before was also heavily contaminated with radioactive materials.

In spite of these heavy contaminations of the various surfaces in the structure the employees examined by breath samplings showed radon concentrations in the expired air of less than 0.3×10^{12} Curies of expired air. This definitely indicated that they were not collecting and fixing radium in their bones.

Periodical blood sampling had been done on employees of the clinic since 1921. In these 31 years 310 employees had been sampled, representing essentially a complete turnover of the staff each year, although of the 10 persons examined, length of employment varied from one to 39 years and the supervising radio chemist and one physician had been em-



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BRECK pH7 PROTECTIVE CREAM protects the hands against irritants such as lubricating oils, cutting compounds, tar, greases, rubber dust, aromatic and hydrocarbon solvents, fiberglass, paint and iron dust. It forms a non-sticky, invisible film over the skin. Breck pH7 Protective Cream is easily applied. It is easily removed with Breck Hand Cleaner or soap and water.

BRECK WATER RESISTANT CREAM protects the skin against the action of water and water solutions such as liquid coolants, emulsified cutting oils, mist and spray from alkali baths and plating solutions, cement and lime. It covers the skin with a light, protective film which is not slippery or sticky. Breck Water Resistant Cream has a pH value of 8.

BRECK HAND CLEANER helps eliminate the use of harsh, gritty, highly alkaline or defatting hand cleaners. It does a thorough cleansing job, yet is mild and non-irritating to the skin.

BRECK WORK CREAM is used after exposure to degreasing materials and at the end of a day's work. It substitutes fatty materials for the natural skin oils which have been removed. In this way Breck Work Cream helps keep the hands smooth, pliable and lubricated.

A Breck Industrial Preparations Booklet will be forwarded to you upon request.

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ployed continuously in the clinic for more than 35 years.

The physician showed X-ray changes suggestive of radiation osteitis and two other employees showed abnormal blood counts which may have been due to radiation exposure. Six of the 11 employees also had changes of the skin and nails, suggestive of radiation injury. In spite of this the health of all of the employees was relatively good.

One of the most interesting findings seems to be the very low amount of radon in the expired air in view of the extremely heavy contamination of the premises with alpha emitting radiation. Since there had been no radiation monitoring of personnel, and since there was no previous survey information, it was not possible to estimate the average exposure over the years of any of the employees, and it was not possible to make any correlation between the medical findings and the extent and duration of exposure.

Night vs. Day Work

Diurnal Variation in Mental Performance, A Study of Three-Shift Workers, by Bo Bjerner, Ake Holm and Ake Swensson. The British Journal of Industrial Medicine 12:103-110 (April 1955).

THERE HAVE BEEN a number of large researches on the daily variation in various forms of animal and human activity. The first physiologically described diurnal variation was the one in body temperature and it is still the one most widely recognized. A number of other physical processes, however, show similar daily variations.

Studies of daily change in mental processes were first done by psychologists and much of this work was summarized by Freeman and Hovland who assembled the contributions of all the investigators prior to 1934 into a single table. It has been said of this table that no matter what sort of a variation one finds it will fit neatly into the table. The reason being that most of the series are so small that chance variations would effectively conceal any real

variation.

The most exhaustive studies of daily variations previously were done in England during World War I to find out the variations in production among shift workers in munitions plants. They found that on discontinuous night work the variation was very small and if the work was continuous nightly production fell below that for daytime work.

Vernon later investigated shift workers in steel mills and found no difference between day and night work in production and a lower accident frequency in night work.

It has been demonstrated that telephone operators take substantially longer to answer calls between 3:00 and 4:00 a.m. than at other times of the day.

The present work is a study of errors made in entering figures related to gas production in ledgers in a large Swedish gas works in which the men worked on three shifts beginning at 6:00 a.m., 2:00 p.m., and 10:00 p.m. Smaller series were done on another gas works and in the electrical control department of a paper mill.

The investigation covered the years from 1912 to 1931 and included approximately 175,000 entries with about 75,000 mistakes.

The number of errors made was analyzed by days of the week and by hours of the day.

There was no significant variation among the days of the week and the frequency distribution of the error fits very closely into the distribution curve calculated by Greenwood and Ewell for the distribution of accidents among various persons.

When all of the errors were summarized for all employees over all years the distribution curve by hours of the day showed two very distinct peaks, one at 3:00 a.m. which was very high and another at 3:00 p.m. which was much lower.

It was noticeable that when the figures for the years 1915 to 1919 were compared with the figures for the years 1920 and 1924, precisely the same types of curves were seen but the peaks were substantially lower in the 1920 to 1924 period when the men were



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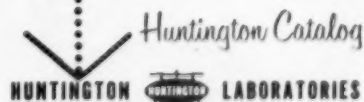
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working a 40-hour week than they were in the earlier period when they were working a 56-hour week.

The curves were also compared by seasons to see if there were any differences in errors between winter and summer, but none were found. This same observation indicated that there was no difference because of variation from light to dark since the afternoon shift was almost wholly in light in the summer and almost wholly in darkness in the winter.

The fact that the same type of variation was shown year after year by different persons in different operations and in different plants shows that the degree of wakefulness fluctuates in a highly consistent fashion during the 24 hours of the day and night. The very large increase in errors during the night corresponds with the feeling people have of being more tired at 3:00 o'clock in the morning than at any other time of the day.

The practical significance of this type of fluctuation is that one cannot expect a person to have the same mental capacity during the night as during the day and it is noticeable that the shortening of the hours of work in 1930 had an observable quantitative but no qualitative effect on the daily variation.

These men were working on a shift which changed every week but the variations in errors were the same the last night of the week as on the first so that one week, at least, was not enough to change the general pattern of their diurnal variation. It has been observed that animals require about a week to adjust themselves to a changed diurnal schedule but this does not seem to be comparable to the men who show no signs of adjustment.

A man admiring a new model car in the automobile showroom went in and bought it.

"Want to drive it home now?" asked the salesman.

"No thanks," said the new owner, "I'll never find another parking place as good as this one."

Now They Have "Talking Elevators"

THE NATION'S first "talking elevator" recently made its public debut in New York, bringing the power of speech to the electronic brains that control modern operatorless elevators.

Passengers in the National Distiller's building, 99 Park Ave., found their usual elevator operator missing and a friendly voice from nowhere taking over with messages of instruction on a pilot car.

Helping them operate the elevator is a device entirely new to vertical transportation — the "Phantom Voice" — an innovation of the Westinghouse elevator division. It is a new application of electronic controls.

Heart of the talking elevator is a highly complex electronic system of magnetic tape messages. It is located in the elevator machine room and connected by cables to

concealed loudspeakers in the ceiling of the car.

The Westinghouse system is fully automatic and, without supervision, is capable of reproducing any message called for by traffic conditions.

The basic unit provides four messages, but any additional number is possible. For example, each floor stop and the names of offices can be announced; as well as "This car up," or "Going down" at each floor. Adaptations of the Phantom Voice to suit the needs of office buildings, department stores, hospitals, schools, banks, or any other type of building are said to be unlimited.

Passengers will not hear repetitious messages beamed at them day after day. Instructions are voiced only when passengers do not carry out the proper procedure or when normal traffic is obstructed.

If the first passenger entering the waiting car promptly presses his floor button, no message is

heard. If he is accustomed to an operator and waits for something to happen, the Phantom Voice reminds him: "Press your floor button, please."

The car doors, opening and closing automatically, are equipped with protective devices. They will not close if a passenger is in the entrance. Should someone hold the doors open, thereby delaying service, the Phantom Voice announces: "Release the doors, please." If the closing of the doors is not interrupted, no message is heard.

A third and less frequent standard message instructs: "Car has stopped because the red emergency stop button has been pressed. If emergency has passed, pull button out."

The fourth basic message reassures passengers in case the car is stopped between floors. It says: "An automatic protective device has stopped the car. Please press the alarm bell to notify the engineer."

Now-Performance Extras never before available in a welder's glove

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World's Largest Producer of Glove Leather Splits.

Welders' gloves that give you important extras are now made possible with General Split's new WELDTAN. You get more heat resistance and softness than with even a horsehide split, more abrasive and tensile strength than any leather has ever had before. And all of this is yours for just slightly more than you'd pay for an ordinary glove.

This best-of-all leather is especially tanned to stand-up under rough going — particularly high temperatures. Besides having greater thermal resistance, it also has a higher shrink temperature, and offers superior comfort and softness. Your men will appreciate these features even more than you'll like the longer wearing qualities.

Make sure you get this extra performance that spells out ECONOMY in the next glove you buy. Gloves made from General Split's WELDTAN leather are available from all reputable glove manufacturers and safety supply houses. You can readily identify WELDTAN leather by this identifying label attached to every pair.

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SMALL BUSINESSES and ASSOCIATIONS

By A. M. BALTZER and ROBERT D. CURRIE
Small Business Program Staff, National Safety Council

Congress — 1955

The October 19 Small Business session of the 1955 National Safety Congress will be a participation conference, not a series of lectures. There will be nothing formal about it, no motions, no rules of order, no voting, no resolutions. You are there to trade ideas and share experiences. Your ideas are wanted. The others want to learn from you, get your thinking, your experiences. And you can expect to pick up some useful ideas, too.

This session is designed primarily for association executives, their safety committeemen, and managers of local safety councils. We can guarantee that you'll get some sound, practical information on what your group can do to help smaller firms with their accident problems. Reserve the morning of Wednesday, October 19, right now — providing you can be in the vicinity of the Morrison Hotel in Chicago about 9:30 a.m.

In addition, you are cordially invited to the Association Award

Luncheon immediately following the morning session. We take that occasion to extend our congratulations to our Association Award winners and present them with their reward for a job well done.

Safety Exhibits

Your association can have a display similar to the one shown on this page. This one appeared at the Printing Industry of America Convention. Nearly 1,000 printing plant owners passed this display. We have provided the American Warehousemen's Association, National Water Well Association, and others with similar displays.

Safety publications are stapled to stiff cardboard panels that fold to a size that can be carried under one arm. Some material, such as on first aid, is general and applies to any industry. One panel is filled with material specific to a given industry. In addition, a limited amount of complimentary pick-up material is available.

Safety Beats Inflation

Harvey Foote, president, H. W. Foote and Company, painting contractors in Boston, recently stated, "So far this year, no competitor has been able to outbid us through lower insurance costs — next year we expect to get additional contracts through safety savings." The firm finds that it can make the same bid on large jobs as it did in 1953, even though labor and material costs have risen. Here's why.

Prior to the start of their safety program in 1953, their employee injury situation was almost intolerable. In 1952, the firm was burdened with an insurance rate 62 per cent higher than the manual rate; in other years the debit rate varied from 6 per cent to as high as 78 per cent. More important, these losses did not include the usual indirect losses that magnify operating costs in a small business of 20 to 40 employees.

With the help of his insurance carrier's loss prevention engineer, Mr. Foote set up a well-rounded yet simple program with real results. It is estimated that their workmen's compensation insurance rate will receive a 16 per cent credit in 1956; an estimated saving of \$1,400 over the cost of insurance in 1952!

The "how" of this success story is not a new idea. Mr. Foote reached the point where "Accidents must stop!" He combined the "know how" within his own organization with the technical assistance of his insurance carrier to do the best job with a reasonable expenditure of effort. The method was not spectacular, but the savings were!

It's For Free!

Reprints of the NATIONAL SAFETY NEWS article "Basic Requirements for First Aid" by W. E. Powell, Liberty Mutual Insurance Company, is a particularly good piece for an association or council to distribute among small firms. Single copies free, only three cents each in quantities of 100 or more. Write to the Small Business Program, NSC.



Safety Exhibit at the Printing Industry of America Convention.

PUT AIR AT YOUR FINGERTIPS



Drop-forged Stainless Steel—withstands hard use; shielded operating button; comfortable grip; countersunk nose; protective hand guard doubles as hang-up hook—parts easily replaced.



Button Type—forged brass body; variety of interchangeable noses; easy grip—parts easily maintained.

Lever Type—forged brass body; air controlled from a pull to a breeze; hang-up arrangement; steel lever; comfortable grip; interchangeable noses—easily maintained.



Use Schrader blow guns... 36 designs and styles

Schrader Blow Guns are made to fit your hand... fit your job! Schrader Blow Guns are built to take it—here's why:

They're rugged both in design and construction. Bodies are drop-forged either of brass or stainless steel.

They're convenient—can be used anywhere. Blow gun circuits—using Schrader Couplers, Hose and Automatic Hose Reels—take little space, yet put compressed air right at your fingertips.

They're economical—they have few moving parts.

And replacement parts, when and if needed, are easily installed.

They're versatile—with nine interchangeable noses—both fixed and adjustable—that fit all three standard-type guns, you can't think of a blow-gun application that Schrader can't meet.

It's easy to find out for yourself what a wide selection of blow guns is in the complete Schrader Line of air control equipment. Write today—or, if you prefer, fill out the coupon below.

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This is your opportunity to see the greatest collection of safety devices, equipment, ideas, and helps ever assembled under a single roof! All the leading manufacturers will be represented — 197 of them. Their booths will be staffed with competent consultants, interested in your problems and anxious to help you solve them.

Plan now to take some time to visit the entire exhibit area — all three floors. It will be time well spent, and probably well repaid.

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October 17 to 21, 1955

North & South Exhibition Halls
Second & Third Floors

Open Daily, 8:30 to 5:30 P.M.
Closes Friday Oct. 21, 10:00 A.M.

Cases for Comment

—From page 44

the ladder warned the production workers around him that he was about to do so. In making one of the moves, the man lost control of the ladder and it fell, striking a production employee in the back of the neck.

The man was sent to the doctor where x-rays were taken. No fracture was indicated and the man returned to work and finished his shift. He also worked the following day, but late that afternoon suffered a severe headache and went to the doctor after work. The doctor advised that if the headache persisted, the man should not work the next two days. The man did not work the following day nor the day after, but did return to work on the first day of the following week.

Decision. The Committee on Interpretations decided that the injury should be included as a temporary total disability in accordance with the actual days lost from work.

Comment. Evidently, even though the window washer warned the production workers to get out of the way, not all of them did. Nevertheless, management should have considered having two men move the ladder since apparently one man could not handle it alone. Perhaps management should consider washing the windows during a time when production workers are not working in that area.

Some Metals Are Toxic

Many metals are poisonous if fumes are inhaled or the dust swallowed. Among them are arsenic, cadmium, cobalt, chromium, magnesium, lead, mercury and zinc.

Persons exposed to dust or fumes should wear respiratory equipment approved for protection against the exposure. Such employees should observe strict rules of hygiene with regard to personal cleanliness and frequent changes of clothing. Washing the hands thoroughly before eating is particularly important.

A NEW WAY TO SAVE LIVES!

How Safety Engineers Can End "SITTING DUCK" Accidents

MOST companies have scores, hundreds, thousands, of employees, who with their families drive cars and trucks millions of miles each year. And most companies have Safety Engineers trained and responsible for the lives of these people.

Here is the logical starting point for a nation-wide Highway Safety Crusade!

Most deadly—costly—of highway smash-ups are the "Sitting Duck" (Stalled Vehicle) Accidents you read about in every paper, as in this spread from LOOK. Accidents that last year killed 1,200 people—injured 87,740—caused two of every three emergency calls—over 28,000,000 "E.S." (Emergency Stop) alarms.

It takes two cars to make such an accident; and sometimes eight or ten "take the rap." But ONE driver can save all that—one long-headed driver—just by setting out a set of Reflector Flares to slow down passing traffic.

So--Teach All Drivers in Your Company, From President Down, to Carry and Use Vari-Flares

Suppose YOU, Mr. S. E., in YOUR Company, Flare-Equip every executive car; every sales car; every employee's car—and all company/highway trucks/—with Sets of Vari-Flares (ONE Flare costs less than a carton of cigarettes, outlasts several cars) . . . Also TRAIN every driver in their use . . .

Suppose YOU see Your professional responsibility—and opportunity—larger—and "carry the torch" for Flare-Equipped cars into YOUR industry, YOUR local Safety Group, YOUR Community (Driver Training, Traffic, etc.), as an Achievement in company and personal relations . . .

How long will it then be—until EVERY Driver, on all highways, will see so many Flare-Protected vehicles along the roads that HE TOO—and all Considerate drivers, will so protect their cars and those that pass? The More Flare-Protected Vehicles, the SAFER the Highways for ALL . . . and Flares "promote themselves when seen"—Teach all drivers to be CONSIDERATE.

For complete Safety Engineer's bulletin on organizing this traffic safety program in your company, industry, community—also quantity rates and sample "every-driver" leaflet, "How to Avoid Passing and Sitting Duck Smash-ups" . . . write or phone. And see us at Booth 315, Conrad Hilton Hotel, National Safety Congress.

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Vari-Flares available in sets of one, two or three. Cost: less than a carton of cigarettes.

VARI-FLARE . . . The unfailing (Reflector) Highway Warning Signal, is sponsored, accepted, sold, used by many leading manufacturers of trucks and cars, many Safety Departments and thousands of other companies. It exceeds all I. C. C. requirements; is approved by Underwriters' Laboratories, AAMVA, Patzig Laboratory, and all States requiring reflector flares.

Vari-Flare sets up in one motion, instantly, in dark. Genuine Stimsonite lenses reflect 24 c. p. over 1/2 mile (four times as brilliant as average tail light). Stable in extremely high winds and built to last a lifetime.

FREE; copy of LOOK Magazine spread reporting deadly cost of stalled vehicle accidents.



**See VARI-FLARE
Highway Safety Display
National Safety Congress
CONRAD HILTON HOTEL, CHICAGO
BOOTH 315**

Defective Equipment Causes Truck Accident

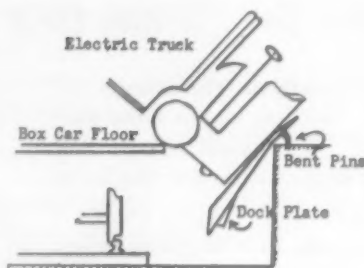
A CAR PLATE with defective pins was responsible for an electric truck accident inflicting severe lacerations and bruises to the driver, reports a case-history article in *Safety Spotlight*, a U.S. Rubber Company publication.

While the trucker was backing his 3,000-pound automatic truck out of a freight car, its small-diameter rear wheels struck the edge of the dock plate and pushed it out of the doorway. Before the noise of the falling plate could alert the driver, the truck backed out of the doorway and landed against the loading dock. It wedged between the freight car door and the dock (see drawing).

The trucker was jarred backward off the truck and landed in a sitting position on the loading dock, injuring his left hand and right elbow.

The company plans to install angle iron sections with adequate holes just below the edge of the dock to provide better anchorage

for the dock plate holding pins and to prevent recurrence of this type of mishap.



All dock plates will be inspected and those not up to standard will be repaired. Operators are to be re-instructed on being alert to such hazards.

Tornadoes Lead in Disaster Toll

CATASTROPHIC accidents—those killing five or more persons—took nearly 550 lives during the first six months of this year in the United States, it has been reported by the statisticians of the

Metropolitan Life Insurance Company.

The total is somewhat smaller than that for the first half of 1954, and is one of the lowest on record.

Deaths in tornadoes increased appreciably since last year, reflecting the toll exacted by the tornadoes which swirled across five midwestern states on May 25, killing about 115 people, 80 of them in Udall, Kan.

During the six-month period there was only one other disaster in which 25 or more lives were lost—the February 12 fire in a men's hotel in Chicago in which 29 were killed.

Catastrophes involving dwelling and apartment house fires, military aviation, and motor-vehicle accidents took substantially fewer lives so far this year than last. The number of deaths in civilian aviation catastrophes is somewhat higher.

Sign on the back of a truck: "Please don't hug me. I'm going steady."

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NEOPRENE COATED**
Heavy-Duty yet
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HOOD makes all types of work gloves — knit wrist, gauntlet, mitten.

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- **Eye Savers Lenses** . . . methacrylate lenses are safer . . . shatterproof and never pit.



MODEL 440SV — clear frame **460SV** — green frame
Heavy Impact Goggles with replaceable optically perfect, methacrylate lenses. Clear Lens (C) .125" thick.
Green Lens: Light (G2) Medium (G3) .080" thick.

MODEL 441SV — clear frame **461SV** — green frame
Average Impact Goggles with replaceable optically perfect, acetate lenses.

Clear Lens (AC) .060" thick. Green Lens (AG) .050" thick.

MODELS 490 or 491 — opaque black frames
Furnished with Stac-Vent only
Methacrylate Lenses: same as 440
Acetate Lenses: same as 441



TUC-AWAY Spectacles

- **Optically Perfect Lenses**080" thick never shatter or pit . . . resist heavy impact. Available clear, green and gold.
- **Side Shields** . . . in 4 styles . . . an integral part of the lens . . . side and bottom protection with clear vision.

COMFORT PLUS 90% PROTECTION

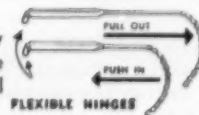
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MODEL 412 metal retrax temples

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National Safety Council Awards for Outstanding Records

THREE TYPES of awards are given by the National Safety Council to industrial units in recognition of outstanding performance in accident prevention:

1. THE AWARD OF HONOR is available to units whose records, though not perfect, meet rigorous standards of excellence. These standards take into account the previous experience of the unit as well as the experience of the industry in which it operates. A unit must qualify on both frequency rate and severity rate. The Award of Honor is available also to units which complete 3,000,000 man-hours without a disabling injury.

2. THE AWARD OF MERIT has similar, but less exacting requirements. Minimum number of injury-free man-hours needed to qualify is 1,000,000.

3. THE CERTIFICATE OF COMMENDATION is available only for injury-free records covering a period of one or more full calendar years and totaling 200,000 to 1,000,000 man-hours.

Details of eligibility requirements may be obtained by writing to the Statistics and Research Division, National Safety Council.



AWARDS OF HONOR

Atlantic Refining Co., Exploration Department.

Baltimore & Ohio Railroad Co., Entire company.

Chicago, Milwaukee, St. Paul & Pacific Railroad Co., Chicago, Entire company.

C. M. & Co. of Canada, Ltd., Bluebell Mine, Riondel, B. C.

The Colorado & Southern Railway Co., Denver, Entire company.

Continental Oil Co., Two awards: Entire company, Wholesale Marketing Department, Ponca City, Okla.

Davison Chemical Co., Baltimore, Entire company.

Deep Rock Oil Co., Oklahoma City, Refinery Department.

Department of the Interior, South Platte River District, Denver.

East Ohio Gas Co., Cleveland, Entire company.

Ford Motor Co., Three awards: Cincinnati Transmission Plant; Manufacturing Services, Highland Park, Mich.; St. Louis Assembly Plant.

General Petroleum Corp., Los An-

geles, Entire company.

General Shoe Corp., Four awards: Cowan, Tenn.; Frankfort, Ky.; Lawrenceville, Ga.; McMinnville, Tenn.

Great Northern Railway Co., St. Paul, Entire company.

The Gulf Oil Co., Pittsburgh, Ex-



Ned Dearborn (left), president of the National Safety Council, presents the Council's Award of Honor to Assistant Secretary of the Navy (Personnel and Reserve Forces) Albert Pratt in the Secretary of the Navy's office.

ploration Department.

Humble Oil & Refining Co., Two awards: Entire company; Producing Department, Houston.

Lago Oil & Transport Co., Ltd., Aruba Refinery, N. W. I.

Likens Steel Co., Coatesville, Pa., Entire company.

Mid Continent Petroleum Corp., Tulsa, Refining Department.

New York Central System, Two awards: Chicago River & Indiana Railroad Co.; Indiana Harbor Belt Railroad Co.

North American Aviation, Inc., Los Angeles, Downey Plant.

Ryan Aeronautical Co., San Diego, Entire company.

Shamrock Oil & Gas Co., Amarillo, Refining Department.

Shell Oil Co., Exploration Department.

Shell Pipe Line Corp., Houston, Entire company.

Sinclair Refining Co., Two awards: Gas Pipe Line Department; Refining Department.

Standard Oil Co. of California, Refining Department.

Sun Oil Co., Philadelphia, Ocean & Coastwise Tanker Department.

The Texas Co., Exploration Department.

Union Pacific Railroad, Omaha, Ogden Union Railway & Depot Co.

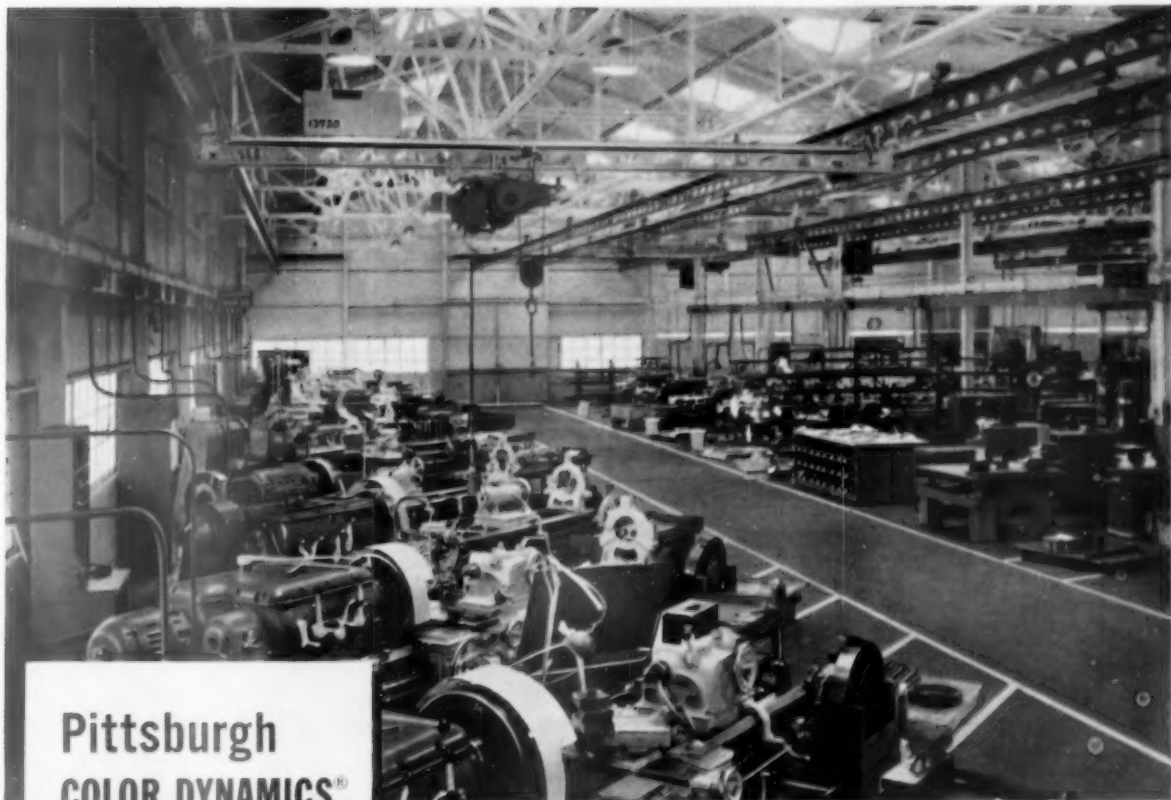
United States Rubber Co., Three awards: Kankakee Unit, Joliet, Ill.; Naugatuck (Conn.) Footwear; Shelbyville (Tenn.) Mills.

United States Steel Corp., Four awards: Fairless Works; Geneva Works, Provo, Utah; Lorain Works, Pittsburgh; National Works.

Warren Petroleum Corp., Tulsa, Gas Pipe Line Department.

Western Electric Co., Two awards: Allentown (Pa.) Plant; Area of Telephone Installation Division.

—To page 126



Pittsburgh COLOR DYNAMICS®

**Helps Employees
See Their
Work Better!**

Modern system of painting
improves efficiency and morale
by providing better lighted and
more cheerful work areas
in California machine shop of
Westinghouse Corporation

You Can Have an Engineered Color Study of Your Plant—FREE!

● We'll be glad to mail you a free copy of our illustrated booklet on COLOR DYNAMICS for industry. It explains clearly the principles of this modern method and how to apply them. Better still, we'll gladly submit an engineered color study of your plant, or any part of it, without cost or obligation. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have a representative see you. Or mail coupon at right.

HOW management and workers benefit from the use of Pittsburgh COLOR DYNAMICS is demonstrated daily in the machine shop of the western headquarters plant of the Westinghouse Electric Corporation at Sunnyvale, California.

This huge structure of steel and reinforced concrete was painted according to the principles of COLOR DYNAMICS to increase efficiency and provide cheerful surroundings.

Interior walls and ceilings were painted to raise the light level so that machinists can read micrometer markings easily. Stationary parts of machine tools were painted restful Vista Green and working parts Focal Ivory. Levers were painted Focal Yellow and electric controls, Focal Orange.

By reducing the effort needed to differentiate between machine, materials and controls the operator is able to focus his attention better on his task. Eye strain, nervous tension and physical fatigue are lessened.

Cranes, overhead conveyors and traffic lanes were painted with safety colors to reduce danger of accidents.

How successfully such purposeful use of color has contributed to productive efficiency and employee morale is summarized in this comment of G. F. Gayer, Plant Manager:

"We are so convinced that COLOR DYNAMICS has bettered production and employee relations in our machine shop that we are extending this method of painting to our other buildings. We want our other workers to benefit from such improved environment. Pittsburgh is to be complimented on the contribution to industrial planning its modern painting system is making."

This Westinghouse machine shop is only one of thousands of plants all over the country in which production has been improved with COLOR DYNAMICS. Why not try it in your plant next time you paint—and see what a difference it makes.

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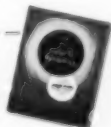
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JOSEPH P. SPANG JR.

Portrait by Fabian Bachrach

“A majority of the employees at Gillette...”

“The United States Savings Bonds program is good for the personal security of the bond buyer—good for the security and economy of the Country. A majority of the employees at Gillette Safety Razor Company purchase Savings Bonds the payroll savings way. Under this plan they find it easy to save a tidy sum for retirement years, to pay that unexpected bill, or meet the expense of other emergencies that arise.”

JOSEPH P. SPANG JR., President
The Gillette Company

If less than 50% of your employees are enrolled in the Payroll Savings Plan . . . if you have not conducted a person-to-person canvass in the past two years (*or if you do not have the Plan*), act now! Telephone, wire or write to Savings Bonds Division, U. S. Treasury Department, Washington, D. C. You will hear promptly from your State Director, who will be glad to help you conduct a person-to-person canvass that will put an application blank in the hands of every employee. That is all you have to do. Your employees will do the rest. They want to save for their personal security.

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New Standard on Sound Analyzers

Tracking down noise and vibrations and reducing them at the source may eliminate hearing loss and dangerous mechanical failure caused by vibrations.

One aid in detecting the din is the just-published *American Standard Method for Specifying the Characteristics of Analyzers Used for the Analysis of Sounds and Vibrations, Z24.15-1955*. This standard has been prepared to help the user and manufacturer of analyzers not restricted to octave bands, as a much finer analysis is desirable for detecting some noises and reducing them at the starting point.

For example, an octave band would give sufficient analysis of room noise, but to quiet a machine of many gears, an analyzer must be sufficiently selective to separate individual components of the noise.

Different types of analyzers are defined and characteristics are given for each. The standard deals with their frequency ranges, bandwidths, transient responses, input and output voltages and impedances, types of indications, power requirements and extraneous influences.

The new standard also describes the operating characteristics that the user should consider and gives the information that the manufacturer should be prepared to supply him.

Since an analyzer is ordinarily used as an accessory to other noise-measuring instruments, special data have been included in the standard to show how to use equipment of different manufacturers together.

The national committee which developed the standard according to procedures of the American Standards Association is sponsored by the Acoustical Society of America.

Too many motorists learn the traffic rules by accident.

One good thing about silence is that it can't be repeated.

STOP THAT FIRE BEFORE IT STARTS



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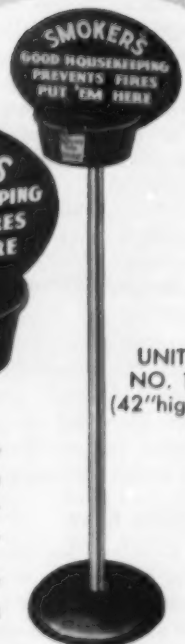
It's the discarded and forgotten cigar or cigarette that causes fires. Rid your plant of smoldering fire hazards by installing neat, attractive, sure-out SIPCO DUNKING STATIONS.

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NO. 2
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UNIT
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(42" high)

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Off the Job

Program suggestions for company activities and announcements of Council services will be carried in this department. For information on program planning write G. T. O'Neill, OTJ Safety Committee, National Safety Council Staff Representative

Blasting Cap Accidents Are Increasing

According to the Institute of Makers of Explosives, the frequency of blasting cap accidents among the younger population is rising again. The Institute's figures show that this type of accident declined steadily from a high of 344 in 1929 to less than 100 in the years from 1947-1952. In 1953, however, 132 youngsters were injured and in 1954, 189 were injured.

To help control these accidents, the Institute has available a kit of materials pointing out dangers involved and giving instructions on what to do when a blasting cap is found. The kit contains a study-discussion sheet, a poster illustrating the various types of caps, and an illustrated leaflet describing the institute's safety film *Blasting Cap*. The material is available upon request from The Institute of Makers of Explosives, 20 E. 43rd Street, New York 17.

The problem of children and explosives is a world-wide one. In Australia recently, so persuasive was a police constable lecturing on the dangers of handling explosives left from World War II, that his schoolchildren audience revealed their private cache of two 25-pound shells, several grenades, detonators, and 50 rounds of small-caliber ammunition.

Home Fires

October fire prevention activities could very well highlight the home. According to National Fire Protection Association approximations, the percentage of residential occupancy buildings involved in all building fires, has been continuously increased. In 1948, 336,000 out of 570,000, or

58.9 per cent, of all building fires involved residential occupancies. In 1953, 480,000 out of 727,000, or 66 per cent, of all building fires involved residential occupancies.

Residential occupancies include dwellings, apartments, hotels, and boarding and rooming houses. The experience of dwellings for these same years are as follows: In 1948, 270,000 out of 570,000, or 47.4 per cent, of all building fires were in dwellings; in 1953, the figure was 420,000 out of 727,000, or 57.7 per cent.

National Safety Council figures on fire deaths show that in 1949, 4,700 out of 6,500, or 72.3 per cent, of all deaths associated with fires occurred in the home, and that in 1954, 5,200 out of 6,300, or 82.5 per cent, of all deaths associated with fires occurred in the home.

Leading causes of all building fires in the year 1953 included: 144,000 from misuse of smoking and matches; 84,600 from defective or overheated heating and cooking equipment; 54,500 from unknown ignition of rubbish; 57,000 from electrical misuse of wiring and equipment; 40,000 from spontaneous ignition; 40,000 from lightning; 35,500 from flammable liquids; 31,400 from electrical power consuming appliances, and 30,000 from defective chimneys and flues.

School Safety

The safety of your employees and the community's children can be fostered by stimulating a safety program in the community's schools. This stimulation may be developed by furnishing the schools and school board with copies of *Safety Education* magazine, by assisting the schools in their program activities, and by acquainting them with the Na-

tional School Safety Honor Roll.

This program consists of an evaluation check list for a general school safety program based on safety activities engaged in by a number of schools with good safety education programs. The evaluation serves as a basis for developing and planning the future of such program activity. Further information is available from the School and College Division.

Night Traffic Hazards Is Theme for October

Motorists' rules are: slow down, double-check all lights, be alert, don't wear tinted glasses at night, turn your lights on at the first hint of darkness, use headlights properly—dim upper beam lights for oncoming traffic, never stop in the travel portion of the highway at night.

For Pedestrians—always walk on the sidewalks or the left shoulder of the road facing traffic, cross at lighted intersections wherever possible, always wear light or reflectorized clothing or carry a flashlight or something white or reflectorized, don't trust your judgment too far in estimating the speed of approaching cars by their headlights at night.

For Cyclists—good headlight and tail light are musts for night driving; trim your bike with white strippings or some type of reflectorized material; wear light colored or reflectorized clothing when riding at night; be alert for holes or ruts in the road, fallen branches, or other objects that may cause you to lose control.

Planning for November And December

Operation Safety themes and material for these months are "Pedestrian Safety" and "Holiday Hazards," respectively.

Home and public safety themes for the same months are: "Firearms and Hunting" and "Keep Them Safe at Christmas."

Kits and material on traffic safety themes are available from the National Safety Council throughout the year. Programs on home safety appear each month in *Home Safety Review*.

Built-In

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comfort**

USSSCO's ADVANCED DESIGN

provides an unequalled combination of eye safety and ease in wearing. Each of these all-plastic models was a first on the safety market and is still a first today, due to continued improvement.

Brow bar and temples form a rugged frame for the SAF-I-SPEC, offering maximum protection—yet this new SAF-I-SPEC weighs less than an ounce. Both SAF-I-FLEX and SAF-I-CHEM eye shields have feather-light vinyl frames that are shaped and molded to fit snugly against facial contours, but have superior toughness to withstand impacts. Light-weight optically correct lenses are low in cost and easily replaced.

Working for You
to Make Safety Work

A fully experienced USSSCO service engineer will assist in your eye protection program. Contact your nearest USSSCO Sales Office listed in the classified section of your telephone directory, or write direct.

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Maximum "spectacle-type" protection PLUS smart, modern shape. Choice of colors in frame, charcoal or burgundy.



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All-purpose eye protection against impacts. Fits over personal glasses.



SAF-I-CHEM

Maximum eye protection against acids, alkalis, chemical splashes, dust, impacts. Frame fits different facial contours.

This eyewear meets Federal Specifications for Optical Qualities, Impact Resistance, and Strength of Materials.

Putting Psychology to Work

Knowing what makes people tick will uncover many an accident cause. And it isn't too hard to learn

By **ANDREW DAKOSKI, JR.**

PSYCHOLOGY is the science which treats of the mind in any of its aspects. Industrial psy-

chology deals with the behavior of persons at work, and safety psychology with this work behavior as it affects their safety.

When a new man reports for work, he brings with him certain

abilities and mental attitudes, either latent or more or less fully developed, which will have definite influence upon the manner in which he performs his job and the way he will respond to suggestions for improvement in his work methods.

Once this man has been hired and reports for work, his performance, including practice affecting his own safety and that of others, becomes the responsibility of his supervisor. Just as the foreman or supervisor has always been the keyman in production, so he is the keyman in safety work and in applying practical psychology.

By intimate contact, the foreman comes to know the likes and dislikes of each of his men; he may gain knowledge of such outside factors as domestic relations, financial troubles, background, and environment which have a bearing on the employee's frame of mind. He learns by experience the best method of getting each employee to respond to orders and suggestions.

First impressions are important. A new man walks into a shop which is dirty and disorderly. If he sees unguarded, hazardous machinery or notices men working on machines with guards not in place, he is not likely to take seriously any suggestions which he may receive as to safe-work methods.

Disorderly and unsafe conditions likewise make it difficult for the foreman to convince old employees that he is serious in his campaign for safety. If he really wants to obtain his men's cooperation in the safety effort, he must do his utmost to maintain good housekeeping and to see that all machinery is guarded and that guards are in place.

Although no two persons are

ANDREW DAKOSKI, JR., is an employee of The Firestone Tire and Rubber Company. This article was prepared in connection with a course in industrial safety at the University of Akron. The instructor was Jack Kidney, Safety Director for The Goodyear Tire and Rubber Company.

How do YOU clean an ENGINE BLOCK?

**AUTOMATIC
POWER
AGITATED
HOT TANK**

Hot wash an entire engine block or 200 lbs. of Parts **FAST!**

**DOES IN MINUTES
WHAT FORMERLY
TOOK HOURS!**

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POWERMASTER
DEGREASER**

RECOMMENDED CLEANING COMPOUND!

Rapid vertical strokes of the motor-driven rack create a washing pressure in the heated cleaning compound, flushing off grease and grime without mess.

The Kleeer-Flo POWERMASTER is equipped with a powerful gas immersion type heating unit which works equally well with natural, manufactured or bottled gas.

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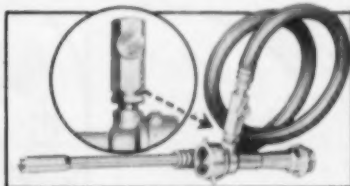


The FW Educator is a discharge side proportioner. Comes in 1½" and 2½" sizes. They operate efficiently on pressures ranging from 75 to 175 p.s.i. at the Educator inlet.



FFF Nozzle comes with Foam screen and solid Foam stream shaper.

Rockwood Educators are designed for use with both the Rockwood FFF nozzle and the SG-60 nozzle with FF extension unit. SG-60 is an all-purpose nozzle that fights fires 5 ways — high velocity WaterFOG, low velocity WaterFOG (with applicator), FogFOAM, solid stream of water or of FOAM. FF extension unit discharges Rockwood FOAM in a solid stream or as FogFOAM, and covers large areas at one time.



The Variable FW Metering-Check Valve on the Rockwood Educator is highly versatile, and is furnished with each FW Educator. It incorporates both the Metering Valve and Ball Check Valve in one unit, and meters material into the hose line in any proportion from 1% through 6%.

One for the road!

Protect against flammable liquid fire due to tank truck accidents

With more traffic on congested highways, more filling stations, more and more gasoline tank trucks in daily service, your city is in greater danger of a flammable fuel fire than it has ever been before. A sudden crash of a tank truck passing through your city streets tomorrow could confront you with a difficult-to-control flammable liquid fire.

The use of Rockwood FW Educator reduces the danger of disastrous losses due to such a fast-spreading fire. Developed for operation with Rockwood's FFF nozzle and SG-60 nozzle with FF extension unit, the FW Educator introduces Rockwood regular FOAM,

Double-Strength FOAM or WET (1% or 2%) into the hose line, quickly controlling and extinguishing flammable liquid and other fires.

Rockwood FW Educator is the simplest form of proportioning you can buy. Ideal for municipal fire departments, oil refineries and industrial plants, it can be attached between discharge gate of a fire truck and hose line, or between hydrant and hose line, or between two lengths of hose.

Be prepared. Put this great fire fighter to work for you. Specify Rockwood FW Educator when you order a fire truck.



Rockwood Double-Strength Foam Liquid, 3 parts mixed with 97 parts water, forms a solid FOAM blanket that quickly re-seals itself. Available in 5-gallon or 50-gallon drums.



Rockwood WET, 1 part mixed with 99 parts water, increases penetration and extinguishing action of water. Excellent for deep seated fires or where water is scarce. Can be used in proportions of 1% or 2% by volume for Class A and B fires. Available in 5-gallon cans or 50-gallon drums.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

PORTABLE FIRE PROTECTION DIVISION • 1044 Harlow Street, Worcester 5, Mass.

exactly alike in any physical or mental characteristics, experience has shown that approximately 20 per cent of the group will be superior, 60 per cent normal, and 20 per cent inferior. Leaders and superior performers will be found among the top 20 per cent, while the accident prone and other problem cases will come for the most part, from the inferior 20 per cent. The remaining 60 per cent, the normal behavior group, will respond satisfactorily to reasonably well-conceived and well-administered programs of education and training.

Industry in general, including the safety man, is interested mainly in the psychology of the individual who is normal or so nearly normal as to be a useful employee. Every normal individual possesses certain desires, either active or latent, to which appeal may be made in the furtherance of safety. Those commonly recognized and used have been variously listed by different authorities, but the following are of major importance:

1. Fear of personal injury
2. Desire to avoid personal loss

3. Desire for reward
4. Desire for leadership
5. Desire to excel
6. Desire to prevent injury to others
7. Desire to avoid creating an unfavorable impression
8. Fear of punishment

Some men respond readily to an appeal to pride. Others react slightly to this stimulus, if at all. Some men respond quickly to the lash of ridicule, others resent it and may even react against it. Some, with imagination and feeling, are deeply influenced by a portrayal of the harm an unsafe act might cause to themselves, or to an innocent bystander. The more calloused are left untouched; still others overconscious of danger may lose self-assurance and self-confidence.

The usefulness of psychology in safety is not confined to creating interest and arousing and maintaining enthusiasm. Psychology is likewise of value in understanding the reason for accidents resulting from unsafe acts which cannot be explained on ordinary grounds; and more particularly in understanding and correcting the causes of accident proneness among certain workers.

Accident proneness is a subject which deserves more study than it has received. In discussing accident proneness, it is important to differentiate between the employee who is a repeater and one who is truly accident prone. Investigators of accident repeaters have produced the following list of causative factors:

1. Physical inadequacies such as eyesight or hearing, nervousness, lack of physical capacity for the job.
2. Motivation faults such as distaste for the job, lack of will to work, dislike of supervisor or fellow workers, or both.
3. Lack of sufficient intelligence.
4. Lack of sufficient manual skill to perform work properly or accurately.
5. Correctable plant and machine hazards such as machinery improperly designed or used; poor plant layout; lack of adequate safeguards; poor maintenance of machinery and equipment.

The repeater whose record can be explained by a correctable physical defect, by correctable

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SIGNS for EVERY NEED!

SAFETY FIRST - BE CAREFUL

NOTICE THESE DOORS MUST BE KEPT CLOSED

HELP HELP ME PLEASE CLEAN

THINK ACCIDENTS ARE AVOIDABLE FORGET THE ALIBI

BE CAREFUL SAVE A LIFE IT MAY BE YOUR OWN

EXIT

DANGER NO SMOKING

WARNING CURRENT ON

CAUTION KEEP AISLES CLEAR

NO PARKING AT ANY TIME

EXPLOSIVES

SLOW

STOP

MEN WORKING

SHELTER AREA S INSIDE

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Why a 9 year old gardener
and a police chief's story
had special meaning for
Jewel Tea's George Clements



"I have one just like it" Mr. Clements chats with Mrs. Don Deininger while Jane Deininger and pet duck "Taffy" show off her garden

"Wausau's enterprising spirit starts at home. In fact, in the backyard! Jane Deininger, 9, has her own garden which she weeds and cares for herself! When I told her I had a garden just like it at home she beamed with pride. Later, over a cup of coffee, Mrs. Deininger told me that Wausau parents encourage youngsters to 'do for themselves.' Jane assists in the kitchen, frosts the cakes, washes dishes and helps care for baby brother. With this kind of training it's little wonder Wausau youngsters grow up to be the kind of people you like to know, to work with and be with."

Wausau Story

Recently, Mr. George Clements, president of a company that serves a million homes coast to coast, visited Wausau. Mr. Clements remarked: "I felt right at home. In Wausau, as in my own company, you get the feeling that everyone is pulling on the same rope."

This is the 'Wausau way.' A good way of doing business. It's the way that we of Employers Mutuals approach insurance problems. We think you'll find it particularly helpful in workmen's compensation, one of our major lines.

For instance: You may have shrugged off workmen's compensation as an inevitable cost over which you have little control. Actually this is not the case. Employers Mutuals' first aim is to reduce accidents. Our safety engineers work with your people—serving not as "inspectors," but as skilled advisors in your own accident prevention work. By preventing accidents we can help you control—and often substantially reduce—insurance costs. We'd welcome the chance to show you how. Phone our nearest office, or write to Employers Mutuals, Wausau, Wisconsin.



Joe Schira, Jr. and Mr. Clements at Northland Sporting Goods Marine Base



Police Chief Everett Gleason greets Mr. Clements

"Wausau stores offer some of the finest outdoor equipment I've ever seen. And, with typical generosity, the folks who run the new Northland Sporting Goods Marine Base have built a new beach and boat dock open to all, and even offer free sailing and water ski instruction."

"Because of Jewel's public safety program, I was interested to learn that Wausau has been named the safest U.S. city for the second year in a row! 'Everyone in Wausau works at safety,' said Police Chief Gleason. That's the sure way to reduce accidents . . . in companies, too."

Employers Mutuals of Wausau



The SAFETY ENGINEER knows



... that A.W. ALGRIP Abrasive Rolled Steel Floor Plate guards against slipping accidents.

He knows, too, that neither oil nor grease nor water can reduce the gripping power of ALGRIP's deeply embedded abrasive. ALGRIP, the *only* abrasive rolled steel floor plate, slashes insurance costs . . . and—because it is steel—gives many years of economical safety under heavy loads and abuse.

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plant or machine hazards, by assignment to work for which he is not suited because of physical deficiencies or special abilities cannot fairly be called accident prone. An accident-prone person is one whose characteristics and behavior are such as to make him considerably more liable to injury than the average person. Such a person will not respond satisfactorily to the usual methods of training.

Failure to respond may be due to a generally low level of intelligence, to inherited or acquired traits such as recklessness, stubbornness, violent temper, or excitability which makes the worker difficult to educate and causes him to commit acts which he knows are unsafe; to lack of interest in his work, to physical inability to carry out actions which he knows he must perform to work safely, to dislike of his supervisor, which leads him to ignore instructions.

Such factors as dislike of a person, dislike of work or ineptitude in certain tasks, may be remedied by changing the man to another department away from the disliked person, to more interesting work, or to work to which he is better suited. Deep-seated, aggravated traits of character may demand long-continued, expensive treatment.

Sometimes the services of a professional psychologist, or even a psychiatrist may be necessary to uncover the mental trait responsible for the accident proneness.

Where the number of workers is small, and where labor turnover is low, the foreman may have sufficient personal knowledge of the man's family surroundings and immediate outside life, to understand or to throw considerable light upon possible reasons for proneness. Working closely with the men he is in a better position than anyone else in the organization to understand many of their actions.

Much of the experience on knowledge of human behavior and its control has been crystallized into short statements which are well worth keeping in mind. Some of the more generally accepted of those concerned with safety are:

It takes **FORESIGHT**
to **SAVE** sight!

**INSTALL SIGHT SAVER
CLEANING STATIONS . . .**
Keep safety glasses clean and safe.

Safety Directors in thousands of plants have found that the best way to encourage people to wear safety glasses is to make it easy to keep them clean. And the quickest and easiest way to clean and polish eyeglasses is with Sight Savers, the genuine silicone treated tissues used and preferred by millions of people.

SIGHT SAVER CLEANING STATIONS are economical to install and maintain—and they require minimum space. Now's the time to increase the effectiveness of your eye safety program with Sight Saver Cleaning Stations conveniently located throughout your plant. Make Sight Savers available to wipe away the best excuse a man can give for not wearing his safety glasses.



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Please send me your listing of Safety Supply Houses handling
SIGHT SAVER Cleaning Stations.

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DIRTY glasses are dangerous and inefficient
CLEAN glasses reduce accidents, improve workmanship
SIGHT Savers keep glasses clean!

Sight Saver Cleaning Stations

Cat. No. 60	(Black)
Cat. No. 61	(White)
Cat. No. 62	(Safety Green)
	each \$2.50
Refill Packets	(Cat. No. 65)
	each \$1.45

Faulty behavior consists of:

1. Doing the wrong thing
2. Failure to do the right thing
3. Overdoing the right thing
4. Not doing enough of the right thing
5. Wrong timing

If we try to understand human behavior, and through effective leadership get across the main ideas of safety psychology, it follows that the adjustment and morale of workers will correspondingly improve. Improvement

in turn will be reflected in a smoother-working industrial organization. The safety and social relations are by far the most important factors in the effectiveness of its operation.

Industry Expands Personnel Work

THE NUMBER of persons employed in personnel work in proportion to total company employ-

ees has hit a new high, according to this year's survey of personnel ratios and salaries conducted by Dale Yoder and Mona L. Walz of the University of Minnesota Industrial Relations Center. Results of the 1955 study are reported in the July-August issue of *Personnel*, professional journal published by the American Management Association.

The average personnel ratio (number of staff members in personnel and labor relations per hundred employees) hit a record high of 0.87 in January and February of this year, an increase of more than a third over last year's 0.65. The 1955 median ratio is 0.80, while that for 1954 was 0.70.

Also at its highest level since the annual survey was begun eight years ago is the average annual salary of the executive in charge of company employee relations—\$10,530, a six per cent increase over last year's \$9,932. The median salary increased from \$8,631 in 1954 to \$9,393 in 1955, a jump of 8.8 per cent.

This year's survey data represents questionnaires returned by nearly 1,000 personnel and industrial relations executives in 45 states, the District of Columbia, Hawaii, five Canadian provinces, and Venezuela. On the basis of the survey replies, the *Personnel* article draws the following composite picture of the individual in charge of employee relations:

He is a man with the title of personnel director but doing a job that includes both "personnel" and "labor relations." He is approximately 43 years old, with 12.3 years of experience in the field and 6.4 years in his present job. He is a college graduate. He regularly reads four professional periodicals and is a member of two or three professional associations.

The ratio of personnel to total employees is highest in banking, financial, insurance, and transportation firms, the survey shows. Generally, it declines as the number of employees increases.

Hint to speakers: The mind can absorb no more than the seat can endure.

IMPROVED Forged Beryllium Copper Open End Wrenches for Spark Prevention

COMPARISON of cast wrench (left) with forged "Berylco" wrench having same opening sizes shows how forging makes for slimmest, lightness, ease of handling. Forged structure also means greater strength and hardness.



Forging makes "Berylco" Safety Tools stronger, lighter, easier to use

Where sparks are a hazard, these new "Berylco" wrenches will get jobs done with the utmost safety and efficiency. Not just because they are made of Factory Mutual approved "Berylco" Beryllium Copper, but also because they are forged. Workers like them and will not be tempted to "get by" with more dangerous tools. Forged "Berylco" wrenches have the same

trimness, slim sections, and toughness that are associated with high grade steel—but without the spark hazard.

Your "Berylco" distributor can supply them now. Opening sizes range from $\frac{3}{16}$ " x $\frac{1}{2}$ " to $1\frac{1}{8}$ " x $1\frac{1}{4}$ ". And this is just the beginning. Other "Berylco" tools are soon to be forged from beryllium copper. Watch for the announcements. Meanwhile, why not get acquainted with the line. Write for the name of your nearest "Berylco" distributor.

The Beryllium Corporation

DEPT. 5J, READING 14, PENNSYLVANIA



New, radio-active, automatic fire guard !

C-O-TWO PRE-DETECTOR SYSTEM



Each pre-detector head protects up to 3,600 square feet of area... harmless radio-active element utilizing ionization chamber principle quickly detects all forms of fire... requires only simple two-wire circuit and insignificant wall space for controls.

This completely new and positive means of spotting fire is just what you've always needed and wanted... detects in the earliest stage, invisible combustion gases, visible smoke, slow smoldering, as well as open flame. The C-O-TWO Pre-Detector System is simple to install, extremely economical to maintain and doesn't depend on thick smoke or heat for actuation.

As many pre-detector heads as necessary can be connected together in a single circuit and up to 16 separate circuits or spaces handled by one system. With a single circuit the pre-detector heads are connected directly to the fire indicating cabinet, while with multiple circuits the pre-detector heads are first connected to one or more space indicating cabinets capable of visually showing by number the exact location of the fire. Relays perform such functions

as sounding alarms, closing fire doors, shutting down ventilation and releasing fire extinguishing systems.

The C-O-TWO Pre-Detector System has been subjected to extensive testing and carries Underwriters' Laboratories, Inc. listing, as well as Factory Mutual Laboratories approval. Proven pilot installations have been made in such diversified properties as a television station, an electric power company network analyzer room, a railroad signal tower, an airline flight training equipment room and the offices of an insurance company.

Don't take unnecessary chances any longer... the extensive fire protection experience of PYRENE—C-O-TWO over the years is at your disposal without obligation. Get complete facts about this new C-O-TWO Pre-Detector System today!



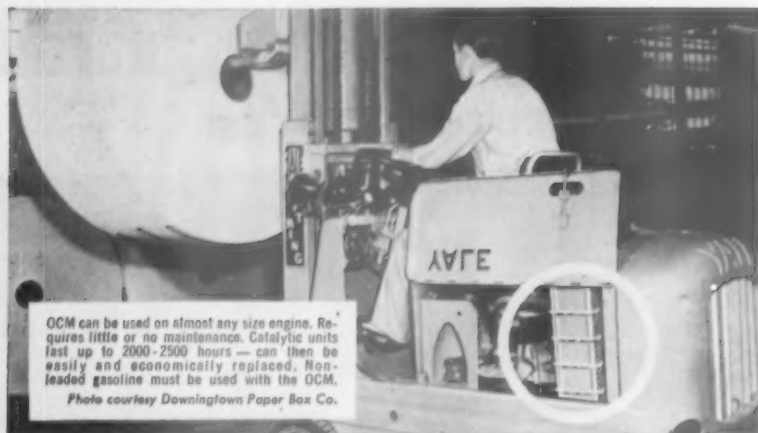
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OCM can be used on almost any size engine. Requires little or no maintenance. Catalytic units last up to 2000-2500 hours — can then be easily and economically replaced. Non-leaded gasoline must be used with the OCM.
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Life-giving Oxygen Can Be Highly Dangerous

OXYGEN THERAPY has saved many lives, but its administration calls for certain precautions. Frank Quayle, writing in *The Gold Cross*, published by the New Jersey State First Aid Council, New Brunswick, lists 17 basic rules for first aiders using oxygen.

1. Place cylinders where they cannot be knocked over and the valve broken or damaged.

2. Do not place cylinders near a source of heat to avoid increase of pressure.

3. Before attaching regulator, "crack" valve to blow out dust or lint in the connection passage.

4. When opening valve point it away from you.

5. After attaching regulator, open valve slowly to give heat of compression a chance to dissipate.

6. Keep regulator free from grease, lint, dirt, and other foreign matter.

7. Do not allow smoking in or near the room where free oxygen is flowing.

8. Have regulator serviced at regular intervals.

9. Keep soap away from high pressure equipment—it's flammable.

10. Do not use cylinders for a clothes tree or a hat rack. If there should be a leaky valve clothes may ignite easily.

11. If apparatus is damaged have an exchange made at once and damage repaired.

12. Do not allow untrained persons to handle equipment. Train them first and observe them at work.

13. Store cylinders in a well-ventilated room. Cylinders should, if possible, be stored alone. Never store with oils or other combustibles.

14. Use a carrier to transport large cylinders.

15. Check hoses used often — for breakage, drying up, etc.

16. Do not force fittings. If parts do not go together easily something is wrong—get another kit.

17. Check apparatus often for functional operation. Inspect all fittings, masks, bags, regulator, etc.

"Was your uncle in his right mind to the last?"

"I don't know. The will won't be read until tomorrow."



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New Bal-SAFE Lens Impact Tester is ideal for demonstration at employee safety sessions. Hammer hits lens with force of $\frac{3}{8}$ " dia. steel ball dropped 50 inches. Bottom photo shows how unhardened lens is shattered. For price, ask your B&L Industrial Vision representative.

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Chalk up another one for Slippery Sam, the high-gloss, high-slip floor wax.

Some administrators still believe that all floor polishes have to be slippery. That's why their bosses are paying top insurance premiums and worrying about liability suits . . . besides spending too much money for floor maintenance.

You're safe when you have LEGGE to stand on

LEGGE Polishes give floors a lustrous finish with in-built Safety. Their co-efficients of friction go as high as 75% beyond U. L. requirements for slip-resistance. And the Safety lasts. Heavy traffic won't "walk-it-off". Many buildings report reductions of 98% and more in slip-accidents.

Here's a big dollars-and-cents saving: Tests show LEGGE Polishes stay on the floor up to 8 times as long as ordinary polishes. That means the big job of stripping and repolishing is rarely necessary. One famous institution lopped \$19,000 off its annual upkeep budget with LEGGE maintenance.

No wonder more and more hospitals, schools, industrial and commercial buildings are turning to LEGGE.

We'll gladly demonstrate the effectiveness of LEGGE Polishes on your floors. No obligation. Clip the coupon today and see for yourself.

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Name _____
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Contests and Billiards Kept Him Young

BILLIARDS AND "contesting" are the favorite hobbies of Walter Sult, of Berwick, Pa., who at 89 is the oldest person who has won an award to date in the National Safety Council's calendar limerick contest.

A former employee of the American Car and Foundry Company and currently a justice of the peace in Berwick, Mr. Sult absorbed a great deal of safety information on the job. This combination of safety indoctrination and a flare for contesting made him a natural winner in a safety contest.



Since winning his first contest in 1947, Mr. Sult has accumulated more than \$900 in cash and merchandise prizes. Unique among these was a pair of roller skates won in a dog food contest. He admitted being a trifle too old to use them but with five great grandchildren they didn't go to waste.

His rose garden, with 50 thoroughbred bushes, is another absorbing interest.

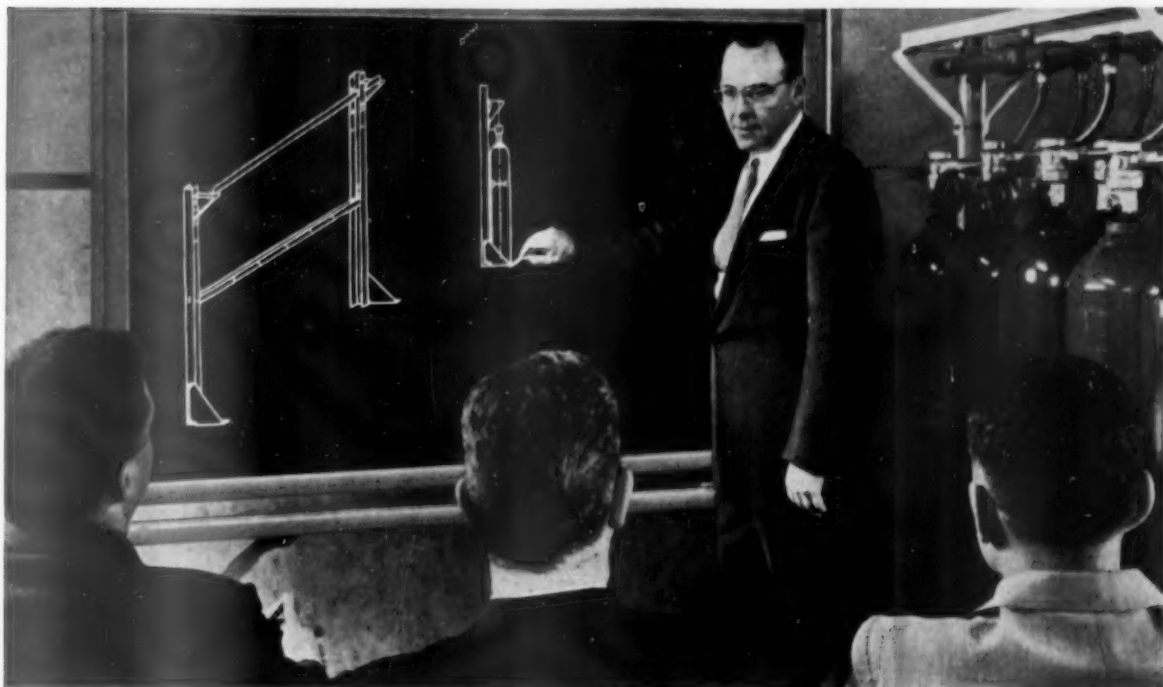
In 1911 he acquired his first car—a Stanley Steamer. He owned several cars up to 1946 and is proud of the fact that he never had an accident.

Draftee: "That Santa Claus guy sure messed up this deal."

Buddy: "What's the beef?"

Draftee: "Fifteen years ago I asked him for a soldier suit—and now I get it!"

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This Kidde Automatic Pressure-Operated CO₂ Extinguishing System is brand new from the floor up!

✓ CHECK THESE 10 FEATURES!

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- ☐ **2. SELF-ENCLOSED PARTS** — All moving parts of the new Kidde system are self-enclosed to prevent fouling or accidental operation!
- ☐ **3. EASIER INSTALLATION** — New racking arrangement is pre-drilled at the factory, eliminates need for special hangers, tools or outside material! Can be either "free standing" or wall mount.
- ☐ **4. NO PARTS TO REPLACE** — Even after a fire, operating parts of the new Kidde system can be re-set with a screwdriver. No parts need be replaced. Refill cylinders and system is ready for operation!
- ☐ **5. SIMPLE, THOROUGH TESTING** — By merely disconnecting control heads from cylinders, all operating parts (other than actual discharge of CO₂ gas) can be tested *in place!*
- ☐ **6. QUICK VISUAL INSPECTION** — All primary actuating parts fitted with easy-to-read visual indicator. Shows at a glance if system is "set" or "released."
- ☐ **7. MULTIPLE PROTECTION** — Automatically-operated Directional Valves let you protect more than one hazard from the same bank of cylinders!
- ☐ **8. SIMPLIFIED WEIGHING** — New racking arrangements lets you weigh CO₂ cylinders right in place without disconnecting them, providing uninterrupted fire protection even while cylinders are being weighed!
- ☐ **9. NO OUTSIDE POWER NEEDED** — The new Kidde system is completely self-contained, has rate-of-temperature-rise detectors which give sure protection even in case of outside power failure!
- ☐ **10. AUXILIARY EQUIPMENT** — Also available for use with the new Kidde system are devices for turning power on or off, for opening or closing doors, windows, dampers, etc.

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So Offices Are Safe?

By MARY F. SOUTHARD

IN A RODEO scene in the movie, "The Arena," riders were to mount wild, unpredictable Brahma bulls and ride them into the arena to a certain point without being thrown. When a rider was thrown, the rodeo clown appeared,

waving a red flag in front of the bull.

In most instances the bull did not charge the clown, but retreated to his stall after much flag-waving. By diverting the attention of the bulls with his red flag the clown saved many riders from being gored to death.

One bull did charge, however,

forcing the clown into a barrel, rolling him around the arena and finally goring him fatally.

Monday-morning safety meetings for office employees can prevent many minor injuries and lost-time accidents and can even save lives. But because the result is not nearly so spectacular as that of a bull retreating to his stall leaving a live man in the arena, we tend to become bored and feel that the safety meetings aren't doing us any good.

Several simple accidents can happen in any office. I think the stapler and staple remover are probably the most dangerous items of equipment. However, we don't think of them as being dangerous because we use them so frequently. The stapler is very temperamental and must be adjusted quite often to keep the staples from jamming. If care is not used in making this adjustment and if your finger gets in the way, you may run a staple into your finger. I know, for I ran one in mine and was fortunate that it went in sideways, making two punctures in the skin like a stitch.

Also, care should be taken to keep the stapler away from the face and eyes while adjusting it to avoid a serious eye injury. The staple remover is a more dangerous looking piece of equipment. I have never heard of anyone being injured by one and perhaps that is the reason.

Sharp corners on desk drawers and file drawers are dangerous. To avoid painful bumps, desk drawers and file drawers should be closed when not in use. A friend once just missed being hit in the head by the corner of a file drawer being hand-carried to the Machine Room. So, you see, the sharp corners of a file drawer could be the cause of a serious head injury.

Another hazard is falls caused by chairs and waste baskets blocking main passageways. A fall over a waste basket by a girl

MARY F. SOUTHARD is employed by the Terre Haute Ordnance Depot, Stock Control Division, Stock Accounting Branch, Document Processing and Review Section, Verification Unit.

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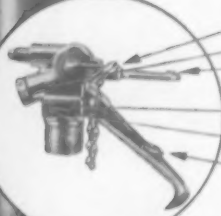
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with an armload of documents could be embarrassing, even if the girl was uninjured, especially if the documents had been put in voucher number sequence.

The Leaning Tower of Pisa, which is 179 feet tall, has been standing for hundreds of years, but packages stacked in this manner do not always stand so long. Imagine what could happen if someone were passing by when the packages toppled over.

The Boy Scout safety motto is "Safety Through Skill." It is a good one for everyone to follow, for skill usually means safety. Accidents rarely happen to experts because they know the right way and how to avoid unnecessary dangers.

As we continue these meetings may we not find ourselves in the same predicament as an applicant for a job as maid? Her prospective employer, who had asked her almost as many questions as a census taker, finally inquired solemnly, "And what are your religious views?"

The girl replied, "I haven't any, ma'am, but I have some good snapshots of Yellowstone Park and Grand Canyon."

So when one of our safety council members asks you, "What are your safety views?" the answer will not be, "I haven't any, sir," but rather, "Yes, indeed, I have safety views and am willing to present them to the group in a five minute talk at the safety meeting."

NSC Publications Used In Air Force Training

NINE DIFFERENT publications developed by and distributed by the National Safety Council are among the materials currently being used in the safety engineering classes for the United States Air Forces conducted at the Center for Safety Education at New York University.

To date, 108 classes comprising some 4,000 U. S. Army and Air Force and Canadian personnel have been conducted at the University by the Center.

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Skin infections and dermatitis will steal more than 100 million dollars from industry this year. Don't let them rob employee health, time and morale—or company profits—just replace the ordinary soap in your washrooms with one of these Armour soaps containing Hexachlorophene.

Regular washing with these Armour soaps destroys up to 95% of the skin bacteria that spread contact dermatitis and cause secondary infections. And they're all mild, rich-lathering soaps—effective in hot or cold, soft or hard water.

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Study Radioactivity At Geneva Meeting

"UP TO THE PRESENT the atomic energy industry is widely believed to be safer than other comparable branches of industry" declares a paper which the International Labor Organization is contributing to the International Conference on the Peaceful Uses of Atomic Energy which opened at Geneva August 8.

The paper, "The Protection of

Workers Against Ionising Radiations," goes on to explain that this situation is largely due to the fact that the atomic energy industry "is still in the experimental stage, is progressing cautiously under government auspices and is controlled by highly specialized staff having necessary background knowledge." It adds:

"In fact, while in nuclear research centers or atomic energy establishments the risks inherent in ionising radiations and the in-

dispensable precautions that they call for are perfectly well known, this is not so in the numerous industrial and other establishments that are already using radioactive substances or will be using them in the near future. It is on this kind of use that preventive action, and hence training activities, should concentrate if workers are to be adequately protected."

The radiations covered are X-rays, gamma rays, alpha particles, beta particles and neutrons.

The paper deals mainly with the nature of injuries caused by ionising radiations, standards of exposure to these radiations, uses of such radiations, and protection against them.

The section on protection first sets out the principles underlying protective measures. Then it deals with generally applicable precautions such as the proper planning and equipment of plant, precautions against inhalation and ingestion, limitation of working hours, monitoring, the handling of radioactive substances, the disposal of waste, supervision and training of personnel, and medical supervision. Then it discusses precautions especially applicable in atomic energy plants, factories, hospitals and agriculture.

The paper also briefly discusses problems arising in uranium mining and processing; and safety in transport of radioactive substances. It naturally attaches considerable importance to the packing and labelling of consignments and refers to the new danger symbol designed by the Office and discussed by the ILO Chemical Industries Committee and other international agencies.

It does not deal with the safety problems of establishments for the actual production of atomic energy and its by-products, which are the subject of important reports to the Conference by national agencies.

Appendixes includes the chapter on dangerous radiations contained in the ILO's Model Code of Safety Regulations for Industrial Establishments; examples of medical record forms; and recommendations on the prevention of dust in mining, tunnelling and

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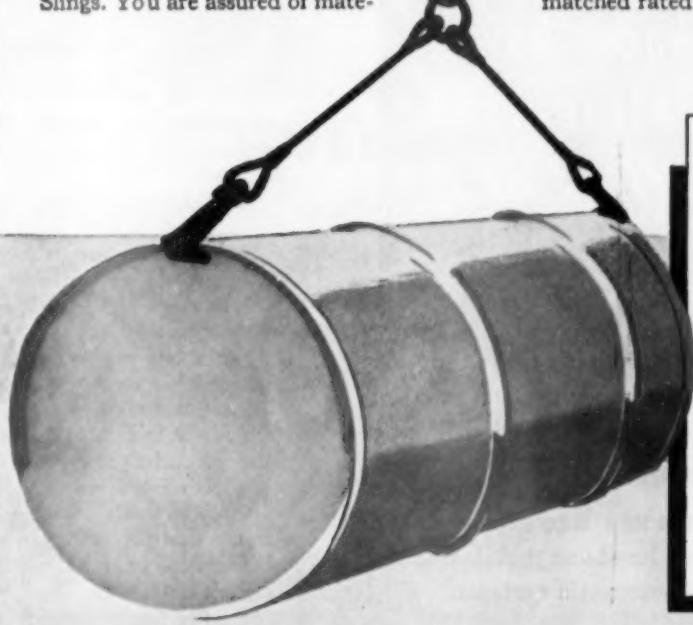
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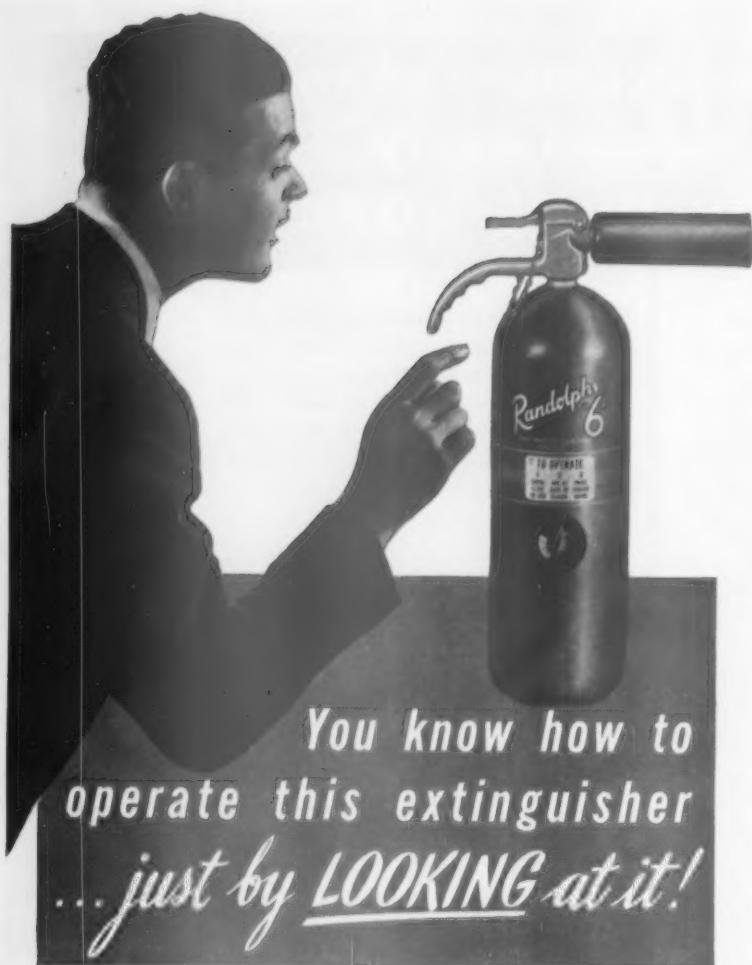


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quarrying adopted by a meeting of ILO experts in 1952.

Tomorrow's Risks

The paper declares also:

"The ILO does not possess information that can be considered adequate on the situation in uranium mining and processing. However, it can be asserted that at the present time the safety and health conditions prevailing in undertaking where X-rays or radioactive substances are used for industrial or medical purposes are generally good and are adequately supervised. Protection of personnel seems to be generally better in industrial undertakings than in hospitals.

"This situation, however, might take an unfavorable turn with the extension of the uses of atomic energy to regions or countries with little industrial experience and underdeveloped inspection services; it might also deteriorate as man becomes familiar with risks that are not perceptible by any of his senses, and for this reason neglects or even despises the most elementary safety precautions.

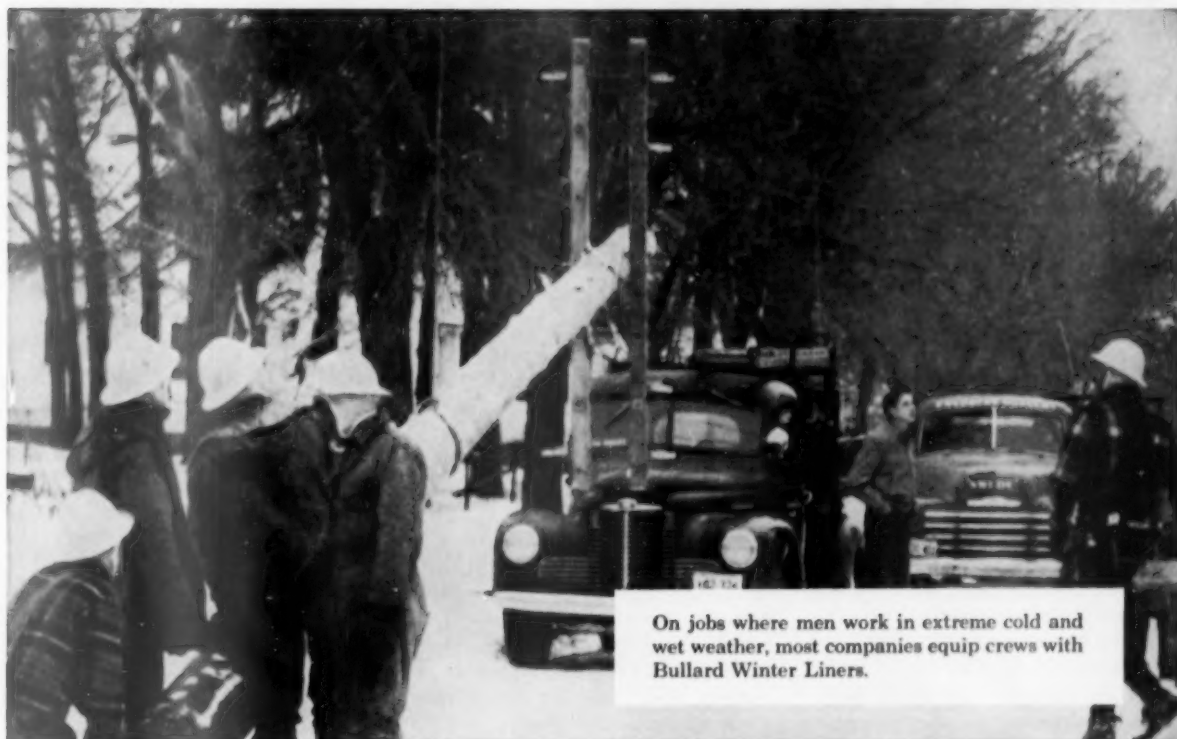
"Lastly, competition to reduce the cost of power from nuclear energy or the cost of devices or usages based on this energy may also tend to narrow the margin of safety hitherto observed.

"Since one of the consequences of the development of the peaceful uses of atomic energy will be to make available to industry and other branches of economic activity a steadily increasing quantity of artificial radioisotopes, it is desirable that protection of workers should receive the close attention of the Conference.

"One of the basic requirements of labor protection consists in the application of codes of practice and statutory regulations wherever dangerous radiations are being used, and this as soon as possible, because occupational safety and health must always be taken into consideration when planning new projects and because also a long period may elapse between excessive radiation exposure and the manifestation of the first injurious effects resulting from it.

—To page 103

SUB-ZERO CONDITIONS – WARM WEATHER COMFORT



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Safety Is a Co-ed Campaign

By HAROLD C. WIDMAN

**Get the women on your team and nothing is impossible.
With their help you can even bring down accident rates**

THREE YEARS ago our accident experience was fantastic. With a plant population of 4,000 we had 1,289 visits to the medical department each week. For a light manufacturing and assembly concern that was tremendous. This has been reduced by more than 75 per cent and recently we operated more than four months—2,000,000 man-hours—without a disabling injury.

How was this accomplished? Not by slogans or fancy reports but by a shirt-sleeve approach and with the help of nature's perfect crime—the female sex.

In the past, it was generally thought that safety was as unglamorous as a hair-do on a rainy day. It was nothing more than ugly hard hats, uncomfortable steel-toed shoes and goggles that made one look like Barney Oldfield. OK for men, perhaps, but definitely not for women.

The picture has changed. Feet are protected by neat, attractive safety shoes. Goggles look just like reading spectacles.

We began our overall approach by looking for an Achilles' heel—the weak spot in our program. So, with a newly hired safety engineer getting acquainted with the organization, and after extensive study, the physical hazards were removed. Then the human factor came into play.

We came up with something as hopeful as a clear spring morn-

ing—a series of give-away programs for employees who had gone for extended periods without injury. Our first award was four hard-to-get choice seats for a Broadway production. These were awarded to two lucky people in departments with the best records. The winners and their spouses received a formal invitation from the safety engineer to be guests of the company at dinner and an all-expense-paid evening in New York.

It was at that point that the coeducational safety feature got a boost. With a little prompting we found that our female employees were becoming Florence Nightingales with portfolio. Not only were the girls looking out for their own welfare, probably because they were looking for an award, but they were also quick to spot something that might be dangerous to fellow employees as well as to themselves.

The Forgotten Men

What other gimmick could we employ to sell safety? I suppose the way to a man's heart is through his stomach. If that be the case what would be better than a turkey for Thanksgiving? Therefore, the second such award was made a week before Thanksgiving, and definitely pointed toward the female population of the plant. A dozen turkeys were awarded on a similar basis to a group of departments where there was a high female concentration.

We were achieving such success with the help of the girls through the give-away awards that we were fearful that we had opened a Pandora's box. It was

Oliver Wendell Holmes who said, "Man has will but women have their way." We had a steamroller with a full head of steam and didn't know whether to bank the fires or throw on another shovel full of coal. We had gone this far and couldn't back out, so we again appealed to the girls but decided that the men should be included in many awards.

With this in mind, one of the girls visited a local department store and ordered a multitude of appliances, such as toasters, electric irons, etc., for the ladies; fishing rods, barometers and sport equipment for the men; and picnic baskets for the family. Awards were made in those departments which showed a remarkable decrease in accidents.

Most recently a console television set, which was on display in the plant cafeteria for several days, was awarded to a veteran employee who had not had an accident for a long time.

These give-away programs may sound expensive but they're not. We could have returned as often as the postman on Valentine's Day with this kind of stuff because it was really paying dividends. By spending a few hundred dollars over a period of several years we not only drove home safety to the men but we also got the women interested.

A certain amount of good-natured rivalry developed where in at least one department the employees would buy candy for the department if he or she had an accident during the month, and in turn, the foreman would buy candy for the department if they achieved a no-accident month. This, incidentally, was an idea of one of the girls.

Of course, there was more to it than just contests. Our Medical Department staffed by registered nurses did an excellent job of counselling employees. Many girls who in the past had been getting burned with soldering irons or pinching their fingers with pliers or jabbing their hands with screw drivers were given special attention by the nurses who used a follow-up system of their own to create the safety habit.

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HAROLD C. WIDMAN is Personnel Manager, Weston Electrical Instrument Corp., Newark, N. J. This article has been condensed from a paper presented at 25th Annual Convention of the Greater New York Safety Council, April 12, 1955.



THREE TELEPHONE PIONEERS from different sections of the country are shown here. They are Robert C. Price of Williamsport, Pennsylvania; Mrs. Marguerite T. Burns of Minneapolis, Minnesota; and Melvin F. Held of St. Louis, Missouri. Shown also are the emblems of the two Pioneer associations.



They're Telephone Pioneers

Experience and fellowship of long-term telephone men and women are important factors in good telephone service

Robert C. Price, Mrs. Marguerite T. Burns, and Melvin F. Held, shown together here, are Telephone Pioneers.

They are representative of the more than 180,000 men and women who belong to two big and important organizations in the telephone business.

These are the Telephone Pioneers of America and the Independent Telephone Pioneer Association.

These two organizations are com-

posed of employees who have spent many years in the business, their average service being well over 21 years. About one out of every four telephone people in the Bell System and independent telephone companies in the United States and Canada is a Pioneer.

Each day the active, working Telephone Pioneers bring over 3¼ million years of "know-how" and experience to the job. Equally important is their

spirit of service that is so important a part of the telephone business.

By sustaining and nourishing this spirit, they help to insure its continuance and provide a solid foundation for greater progress to come.

The fast, courteous, low-cost telephone service you enjoy today is due in no small measure to the men and women who wear the proud emblems of the Telephone Pioneers.

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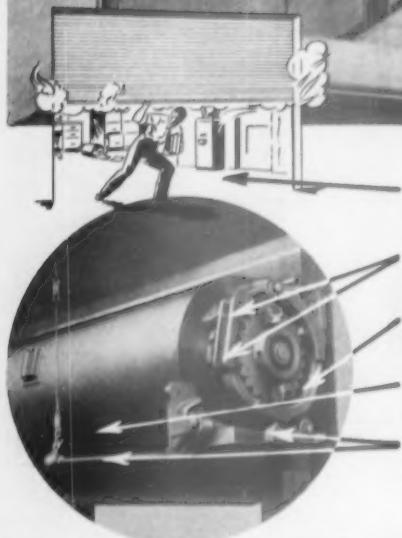


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FIRE DOORS**

THESE EXTRA SAFETY FEATURES



EMERGENCY EXIT —
Doors can be raised after automatic closure.

BARREL LOCKS —
Stop curtain at correct closed position.

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Controls downward speed of door for safety.

AUXILIARY SPRING —
Starts doors with positive downward push.

RELEASE LEVERS —
Unlock closing mechanism in case of fire.

You get positive, automatic, safe protection at windows, doorways and other openings with Kinnear's famous AKBAR Rolling Fire Door.

Approved and labeled by Underwriters' Laboratories, they combat fire loss by closing automatically, cutting off dangerous drafts, blocking the spread of flames, confining fires to smaller areas.

When fire becomes threatening, Akbar Doors are pushed downward by a strong starting spring, to assure quick, positive action.

Yet, downward speed of the doors is controlled by a special safety device, to protect the people who may be passing through the doors at time of closure. And the doors can be opened after

automatic closure, for emergency exits.

Another Kinnear safety feature prevents the steel curtain from pulling loose from the barrel at top, or from dropping below the lintel in case the floor is weakened by fire.

Akbar Fire Doors remain coiled above the opening, completely out of the way. In many cases, they're completely hidden from view. They can also be used in regular, daily service operation, and can be equipped for motor operation if desired. (Where maximum fire protection is not essential, the regular, non-labeled Kinnear Rolling Doors are preferred.)

The Kinnear AKBAR Fire Door is available in any size. Write for complete details.

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Building Board Offers War-Time Protection

A CHEAP WOOD-FIBER building board that filters poison gas, disease-laden particles, and the radioactive fall-out of atomic explosions from the atmosphere has been announced at Madison, Wis., jointly by the U. S. Forest Products Laboratory and the Army Chemical Corps.

With the new material, developed by the Laboratory under contract with the Chemical Corps, shelters can be built to protect troops and civilians from some of the most deadly effects of modern war, Dr. J. A. Hall, Laboratory director, predicted. The material, called "diffusion board," is now being extensively tested by the Laboratory and the Army Chemical Center, Maryland, for use in shelters.

The material, according to Maj. Gen. William M. Creasy, Chief of the Army Chemical Corps, will put protection within everyone's reach when it becomes available. Present small-scale commercial production is for military testing purposes.

Developers of the new fiberboard are Drs. Alfred J. Stamm, veteran research scientist at the Forest Products Laboratory, and Harold Tarkow, his assistant. Both are members of the Laboratory's division of wood chemistry, headed by Dr. Edward G. Locke. Drs. Stamm and Tarkow worked closely with Leonard A. Jonas, Chemical Corps project officer in charge.

The diffusion board looks much like ordinary building fiberboards widely used in house construction. Secret chemicals in it screen out deadly gases and particles. Life-sustaining oxygen, however, passes through it, Dr. Stamm said, so that persons inside shelters won't suffocate. Likewise, carbon dioxide gas given off in breathing can pass through it, along with respiratory vapors.

Pilot-scale production tests at two plants have shown that the fiberboard can be manufactured with much the same equipment used to make ordinary building fiberboards. Any species of wood can be pulped to make it.

"We feel," Dr. Stamm said, "that with this material our troops and the general public can be

pretty well protected from atomic dusts, poison gas, and germ warfare. Of course, it will take a tremendous amount to provide shelters for everyone."

The fiberboard is the product of three years of research at the Forest Products Laboratory, which is a part of the Forest Service of the U. S. Department of Agriculture.

"Representatives of the Chemical Corps," Dr. Stamm said, "came to us with their ideas for a barrier material that would filter germ-carrying particles, poison gases, and atomic dusts from the atmosphere. They told us such a barrier would have to do the job without help of electricity or any type of machinery. We suggested certain possibilities and were authorized to proceed with the necessary research."

The development work was done with military applications foremost in mind, such as shelters inside troop barracks, aircraft hangars, and other military structures.

"The material has equal value, however," Dr. Stamm said, "for use in homes and other civilian buildings during an attack by an enemy."

Score Another for The Coffee Break

RECENTLY EMPLOYEES in a small California plant owed their lives to the fact that they had adjourned to a nearby restaurant for morning coffee when an explosion wrecked the shop.

This time it was a housewife in Oregon. As reported in *Safer Oregon*, she was holding a guy wire while her husband was putting up a TV antenna. Receiving an invitation from a neighbor to come over for a cup of coffee, she wrapped the guy wire around the bumper of the car.

The husband had overlooked a 12,000 volt line directly above their trailer house and pushed the antenna against it. Fortunately he was standing on the trailer, which was insulated.

But the guy wire would have been lethal for the wife if she hadn't accepted the invitation for a cup of coffee.

New, improved Taylor Made ALLOY STEEL DOWNTOWN TYPE MAGNET CHAIN

**lasts 5 to 15 times longer
than conventional three-leg types!**



Patent No. 2626175

Designed to eliminate wear due to twisting—reduces the lifting angle and therefore increases the strength and life of chain. Made with Taylor Made Alloy Steel Chain, it has twice the strength of wrought iron assemblies. It's tougher too! Heat-treated—it has great resistance to shock lifts, grain-growth and work-hardness at low temperatures—never requires annealing. Lasts five to fifteen times longer!

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New Lifting Bail Design
provides larger opening for crane hook. Heavy, squared-type Alloy Steel construction assures longer life.



Locating Plate
takes larger jamer links with squared top sections—keeps chain legs at 120° centers to reduce wear due to friction, twisting and gouging.



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X-WELD

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- At last—a chain with welds as strong or stronger than the material . . . welds that won't break when links are bent sharply . . . welds made with two projecting lugs that absolutely prevent dangerous kinking of the chain . . . welds that provide $2\frac{1}{4}$ times the welded area found in normal flash or butt-welded links.

Accoloy X-Weld 125 Chains hang straight as a die. Every link is perfectly formed!

Accoloy X-Weld 125 Chain has almost countless uses: Slings, bundling, towing, general utility chains . . . It can be furnished in special analyses and heat treatments to provide greatly extended life and use on tough jobs . . . corrosive jobs . . . abrasive jobs . . . hot jobs. Specify **Accoloy X-Weld 125** for your next chain job for a new concept of chain performance, economy and value. Available in $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ " and $\frac{3}{4}$ " sizes.

• Ask our nearest district office for further information on **ACCOLOY X-WELD 125 CHAIN**, or write the American Chain Division, York, Pa., for descriptive bulletin.

The Secret is
in the Weld!



This Accoloy X-Weld 125 link was ground and etched to show its big welded area— $2\frac{1}{4}$ times the size of welded area possible with other welding processes. This means more than double the security of the weld—and only X-Weld has it!

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for
Better
Value

Thanks Paper Cup Institute For Aid In Defense

THE FEDERAL Civil Defense Administration recently tendered its official thanks to the Paper Cup and Container Institute for its part in the demonstration of emergency mass feeding at the atom bomb test last spring.

The Institute was one of the co-operating organizations that provided food and facilities for the full scale Civil Defense feeding demonstration held in conjunction with the atom bomb test at Yucca Flat on May 5. For this occasion widely divergent services were donated by groups ranging from hotel and restaurant associations and trade associations to veteran handlers of emergencies, such as the American Red Cross.

The Institute's services in the Yucca Flat demonstration is representative of the paper cup industry's long range program of aid to civil defense with special reference to emergency feeding. In 1951, the industry set up, without cost to the nation, stockpiles of 25 million cups and containers in 20 strategic locations to help feed the homeless and care for injured in event of a large scale bombing attack.

From 1951 to 1954, it carried on a campaign to help educate the American people to the need of Civil Defense preparedness and, in 1954 and 1955, it turned over the stockpiles of cups and containers to 95 cities to aid in training civil defense feeding teams.

Something New in Baseball —Plastic Bases

"SAFE" MEANS MORE than it formerly did in baseball. Now, along with the safety provided by tough plastic headgear inserts and soft, resilient sliding pads, comes the report that vinyl plastic bases filled with sponge rubber are adding to the sport's safety.

Vinyl plastic bases are now used by four major league clubs and by many minor league clubs. The bases, dubbed "Hollywood Star," resemble old-fashioned canvas ones in appearance, with simulated texture and stitching

molded into place. These are no straps or buckles to trip players, and the rounded corners and sides help prevent stumbling injury. The shock-absorbent rubber interior protects sliders, and the vinyl plastic covers are washable and can be kept looking new and white at all times. This last feature does away with the use of lime or paint commonly employed to brighten up canvas bases.

Announce December 1 As S-D Day

ASSURANCE of participation by President Eisenhower in a nationwide safe driving campaign, November 20 to December 1, has been announced by the President's Committee for Traffic Safety.

The promise of White House support was given in a letter from President Eisenhower to Harlow H. Curtice, president of General Motors Corporation and chairman of the President's Committee.

The safe driving campaign will culminate, as in 1954, in an "S-D Day," or "Safe Driving Day," on December 1.

In his letter to Mr. Curtice, dated August 5, the President said:

"It is gratifying to read in the report of the Committee for Traffic Safety that progress has been shown in making streets and highways safer for the American people. I am in accord with the determination of your Committee to broaden its work in stimulating effective community action throughout the country.

"The Special Message on Highways, which I sent to Congress on February 22, 1955, was motivated in large part by a recognition of the urgent need we have for improved highways as a factor in saving lives.

"In the hope that we shall be able to insure the safety of our families and fellow citizens, I shall be happy to participate in a safety campaign beginning on November 20, 1955, and culminating in S-D Day on December 1."



There's a BIG difference in floor absorbents MAKE THIS DISCOVERY!

RIGHT IN YOUR OWN OFFICE you can test the difference of Eagle-Picher Industrial Floor-Dry with whatever oil absorbent you're now using. You'll discover it actually absorbs as much as 100% or more liquid per pound than other floor drying materials.

YOU'LL ALSO PROVE that Eagle-Picher Floor-Dry retains its skid-proof granular mineral form even when saturated. It doesn't mud or pack. Light in weight, it spreads easier and covers a larger area. Non-combustible, it has no chemical reaction. And possessing unusual reflective power, Floor-Dry makes working conditions bright and pleasant, as well as safe!



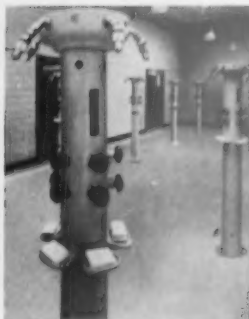
Since 1843

WRITE TODAY. Our Eagle-Picher representative will bring the portable laboratory to your office where you may make this test yourself. The Eagle-Picher Company, Cincinnati 1, Ohio.



PARTIAL LIST OF RECENT BRADLEY MULTI-STALL SHOWER INSTALLATIONS

Kansas City Southern RR,
No. Shreveport, La.
McLouth Steel Corp.,
Trenton, Mich.
Bridgeport Thermostat Co.,
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U. S. Rubber Co.,
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The Showers with partitions as shown at top of ad can also be furnished as Column Showers without partitions as below.



SHOWERS—TODAY AND TOMORROW

More and more the need and desirability of having sanitary shower facilities have become generally recognized.

For economy of installation, piping connections and space, Bradley Multi-Stall Showers meet present-day requirements. Coming to you partially assembled—each 5-stall, 3-stall or 2-stall corner unit requires but one set of piping connections—hot and cold water, and drain.



5-STALL
UNIT



3-STALL
UNIT



2-STALL
UNIT

The 5-in-one-group Showers are placed away from the wall, the 3-Stall Units are located at the wall, while the Corner Showers make available corners otherwise wasted. At left is shown a shower-room with Bradley Columns without partitions or curtains.

For Showers—today and tomorrow—let us mail Catalog 5204 which shows all dimensions and model data.

BRADLEY WASHFOUNTAIN CO.

2237 W. Michigan Street
Milwaukee 1, Wisconsin

BRADLEY
multi-stall showers



Write today
for
Catalog 5204

Distributed Through Plumbing Wholesalers

Co-ed Campaign

—From page 90

As our company does extremely light work, the girls are not required to wear uniforms or any particular type of clothes, and accordingly in their vanity they wear attractive dresses and, of course, high-heeled shoes. For a while we ran into a situation where in their haste to catch a bus or to be the first in line at the lunch counter, these girls with the high-heeled shoes would tumble buttocks over teakettle down several steps without dignity and at the most inopportune moment.

The insurance carrier cooperated by having a representative to come and talk to a group of employees who frequently were involved in these acrobatics. We found that it was only necessary to do this with a small group before the word was spread through the key figures, the girls with long service and popularity advising them of the sensible type of clothes to wear to business and the way a dignified lady should run and fall.

We were having a number of eye accidents each day because the employees simply refused to wear cumbersome types of face protection. They had not been educated in the use of plano or prescription safety lenses fitted into attractive frames. With the help of the girls we picked out several frames that were attractive and would not take away from the appearance of the Perry Comos and Marilyn Monroes in the plant. We called in a local dispensing optician and each person was given individual attention with spectacles to his liking fitted to his or her own face contour at a nominal fee. As it stands today, we go month after month without an eye accident.

In effect, what we have done is to look for causes and correct the unsafe act or condition before needless suffering takes place. Again the credit can be attributed in part to the coeducational feature.

The other day I read an article in *Management Information* titled "Accident Experience Is the

LUMINOUS GLOW SAFETY SIGNS

THE PHOSPHORESCENT MATERIALS INCORPORATED INTO OUR LUMINOUS SAFETY SIGNS IS THE HIGHEST ACHIEVEMENT IN MODERN SCIENCE. LABORATORY TESTS HAVE PROVEN THAT OUR PHOSPHORESCENT COATING MEETS AND EXCEEDS ALL ARMY AND NAVY SPECIFICATIONS.

IN THE EVENT OF BUILDING LIGHT FAILURE THE LUMINOUS COATING WILL GLOW IN THE DARK FOR SEVERAL HOURS GIVING ASSURED DIRECTIONAL GUIDANCE TO SAFETY.

PAVED ENAMEL LUMINOUS COATED METAL SIGNS
THIS TYPE OF SIGN WILL BE MADE UP TO ORDER BOTH IN SIZE AND LETTERING TO SUIT YOUR REQUIREMENTS.

ELECTRO LUMINOUS - GLOW SIGNS
CAN BE INSTALLED QUICKLY AT SPECIFIC LOCATIONS USING YOUR OWN WIRING FACILITIES.

LUMINOUS GLOW TRANSLUCENT GLASS FRONT SLIDES MAY BE PRINTED IN SILVER OR BLACK IN LETTERS OF VARIOUS STANDARD SIZES—SMALL 10" x 6" x 1/4" - LARGE 22" x 6" x 1/4"

Prairie State Products Co. 3822 LAWRENCE AVE.
CHICAGO 25, ILL.

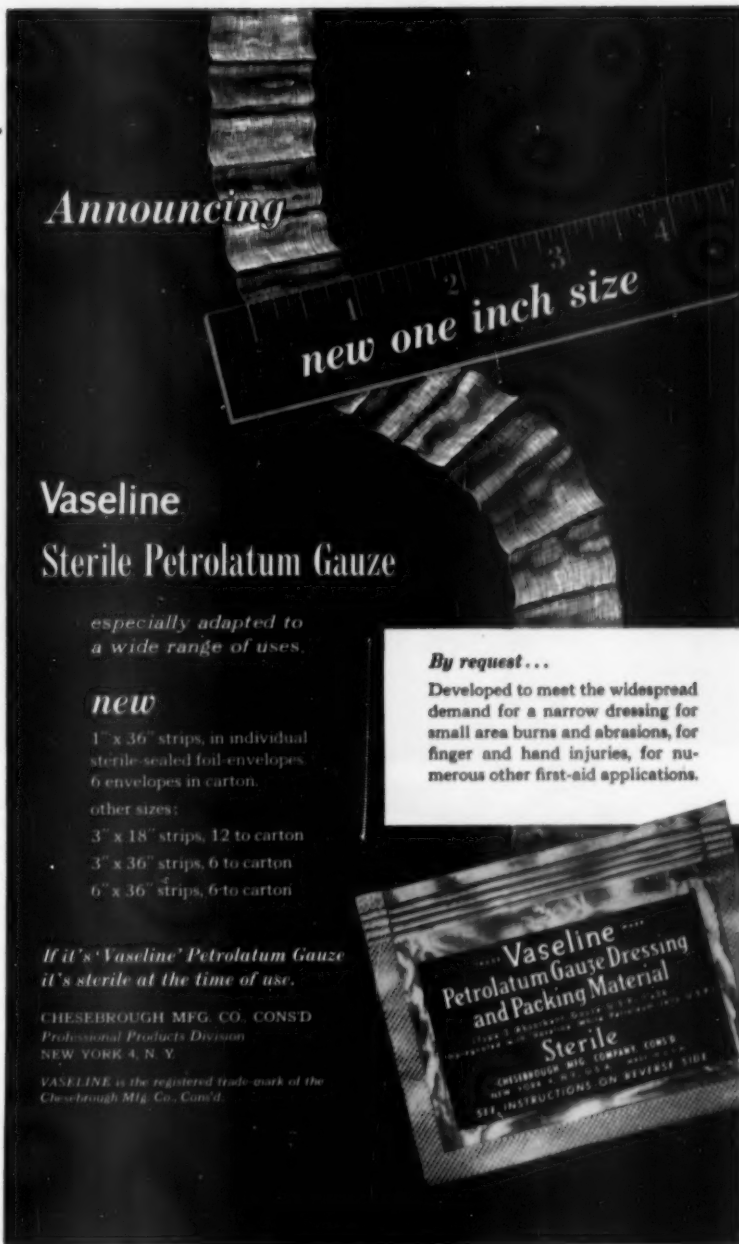
Best Teacher" which went on to say that even the most safety-minded supervisors might tend to concentrate on potential hazards and entirely overlook the safety lesson that can be brought home dramatically to other workers when a man meets with an accident on the job. Here are some of the points supervision should keep in mind:

1. Build an employee's natural interest in what happened in an accident case by supplying the real facts and correcting misinformation surrounding the mishap.
2. Publicize situations in which the proper use of safety equipment, safety clothing or safety guards helped to avoid accidents.
3. Analyze accidents and then stress steps to be taken to avoid repetition.
4. Correct any accident-causing conditions arising from faulty equipment, machinery, materials or tools.
5. Bring safety instruction up to date on the basis of accident experiences.
6. Revise safety rules where necessary to avoid repetition of accidents.
7. Use accidents as the basis of talks with employees or in safety committee meetings and discuss how these accidents could have been prevented.
8. Report accurately to employees to avoid confusion, rumors and misinformation concerning the accidents of other employees or supervisors.

Number 7 appeared likely to us, "Use accidents as the basis to talks with employees or in safety committee meetings and discuss how these accidents could have been prevented." We took a cue from that some time ago and decided it would be best if we permitted the female sex to invade a field heretofore entirely reserved for the men—the plant safety committee.

At each meeting one of our registered nurses was invited to sit with the safety committee and give the feminine point of view. She was given a free hand to help clean up situations that might occur in predominantly female occupations.

To be sure, our safety program clicked for a combination of reasons, most important of which was that management gave its full support to the safety department. Our safety department was prolific with imaginative ideas and



Announcing

Vaseline

Sterile Petrolatum Gauze

especially adapted to a wide range of uses.

new

1" x 36" strips, in individual sterile-sealed foil envelopes, 6 envelopes in carton.

other sizes:

3" x 18" strips, 12 to carton

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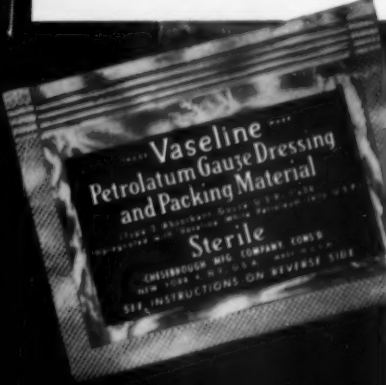
If it's 'Vaseline' Petrolatum Gauze it's sterile at the time of use.

CHESEBROUGH MFG. CO. CONSD
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Developed to meet the widespread demand for a narrow dressing for small area burns and abrasions, for finger and hand injuries, for numerous other first-aid applications.



4 Boxes—1000 Tissues Each
Size 4½" x 10¾"—\$7.00



Station
Complete with
Bottle & Sprayer
Price — \$5.45

NO-FOG
Trade Mark Reg. U. S. Pat. Off.

Lens Cleaning Tissues

Use Just Water, No Chemicals Needed

This new, chemically treated tissue is low in price and does away with expensive chemical sprays. Cleans and no-fogs goggles, eyeglasses and welding lenses with the addition of water only.

Tissues can be used several times.
Contact your nearest jobber or write us for samples and literature.

Distributors wanted. Write for proposition.

CARHOFF COMPANY
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**How much damage and down-time
can this equipment save you?**



Property damage and loss of production caused by a fire in your plant can be a serious blow to your business. And conventional fire-fighting methods often cause more damage than the fire itself. That's why John Bean Industrial Fire-Fighters, like the new "HH" High-Pressure Fog unit above, are such a good investment in plant and production protection.

Only John Bean Fire-Fighters give you the advantages of fighting fires with true high-pressure fog — and only this John Bean fog can kill fires so fast with so little water damage. Water, atomized by the high-pressure fog guns under a pump pressure of 800 lbs., has such instantaneous cooling, smothering and isolating effect on flames that they're knocked out with only 1/10th the water used under ordinary pressures.

The new "HH" model packs the performance of a full-size municipal fire truck into a compact, highly maneuverable unit only 135 inches long. A 48-inch width and a full-turn radius of less than 15 feet allow it to drive down factory aisles and turn sharp corners with ease. A 98 H.P. engine drives it at speeds up to 25 m.p.h. to

get to fires fast — also powers the high pressure pump. Unit carries 200 gals of water which puts two fog lines into immediate action.

There's a complete line of John Bean mobile and stationary fire-fighters . . .

WRITE FOR CATALOG L-889 TODAY



One-Gun
Mobile Model



Skid-Mounted
Model



Stationary
Model

JOHN *fmc* BEAN

Division of

**FOOD MACHINERY AND CHEMICAL CORPORATION
DEPT. IF, LANSING 4, MICHIGAN**

had the courage to put them into effect. Our girls, with the help of the nurses, developed the right psychological climate for the safety program.

A safety record represents the sum total of the attitudes of all the men and women in the plant and office. When this attitude pendulum swings in the right direction, you are bound to see improvement in many directions. A desire to work will be fostered, general cleanliness and house-keeping will change for the better, and dollars will be saved.

Everett Martin Honored by Connecticut Society

IN RECOGNITION of his many years of outstanding service to the promotion of safety, in the state, Everett W. Martin was presented with the Distinguished Service Award of the Connecticut Safety Society at the Society's Tenth Annual Conference held at Hartford in June.

The citation reads:

" . . . Whose teaching inspired the organization of this Society. As first President he laid a firm foundation. As Editor of our Journal for a decade, he has given continuity to our program and extended its influence far beyond this State."

Mr. Martin, who is director of educational projects, Home Office Loss Prevention, at New Haven, has found safety an avocation as well as a vocation. He is instructor in accident prevention at New Haven College; director, New Haven Rehabilitation Center; guest lecturer at Yale University; president, New England Accident Prevention Association, and editor of the *Connecticut Journal of Industrial Safety*. He is the author of more than 30 articles on industrial safety.

Doctor: "And how do you sleep?"

Lazy Harry: "Well, I sleep good at night and I sleep good in the morning but in the afternoon, I just twist and turn."



WHAT'S NEW

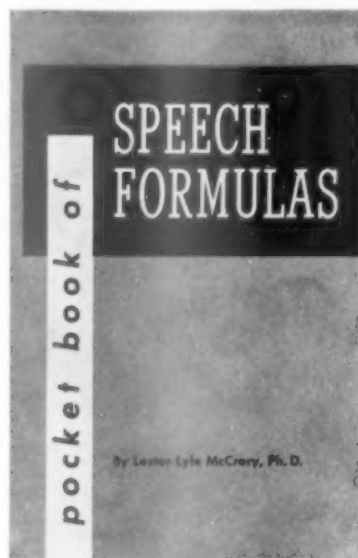
IN

NATIONAL SAFETY COUNCIL SERVICES *

How to Put It Across

A *Pocket Book of Speech Formulas*, a reprint of the popular series of articles which first appeared in the *Industrial Supervisor* magazine, is now available.

Written by Lester Lyle McCrery, professor of speech and English at California Institute of Technology, the 36-page manual presents ideas that will assist anyone called upon to give a safety talk—or any talk. It shows how to practice a speech, how to use



the best voice, how to hold audience interest, and how to make the speech teach. The manual includes the details of organization, preparation and delivery. It even shows how to win over a hostile audience.

The *Pocket Book of Speech Formulas* is illustrated with line drawings and is covered with a heavy paper cover printed in two colors. It is available to Council members at \$1.20 each and to non-members at \$1.20.

Operation Safety

More people are killed or injured in automobile accidents between the hours of 5 and 8 p.m. than at any other time.

Many factors account for this particular interlude of jeopardy—increased traffic congestion due to people returning home from work or going out for the evening, the psychological letdown and physical fatigue at the end of the working day, the reduced visibility due to the earlier twilight in the fall, and other hazards associated with nighttime driving and walking.

The Operation Safety program for October is geared to an all-out drive against night traffic hazards. Primarily one of safety education, it points out the dangers inherent in nighttime driving and walking and recommends measures to reduce the alarming toll of people killed or injured in night traffic.

The program is slanted toward both the motorist and the pedestrian, with suggestions for increased cautionary practices for their own safety while driving or walking as well as that of others.

Materials in the October kit are designed to provide ideas and program plans for both small and large communities. Included are news releases and radio scripts adaptable to local conditions, information on films and film trailers on the subject of night traffic hazards, tips for public speakers, and many other program aids.

The kit also contains samples of two leaflets—"Now's the Time to be... THE FIRST MAN!" and "Murder by the Clock"—the first indicating the proper use of head-

lights, and the other pointing up general night traffic hazards for drivers, walkers, and bike riders.

Two other safety features are described in the kit: bumper strips—"Stay Alert, Stay Alive"—now



Poster featured in October Operation Safety program.

available from National Safety Council; and a brochure describing the new "reflectorized" clothing for night wear now on sale.

For further information on the October kit or the entire Operation Safety program, write Bob Shinn, Director, Operation Safety, National Safety Council, 425 N. Michigan Ave., Chicago, Ill.

Data Sheets

Here are some recent additions to the Council's library of data sheets:

- Corrugators*, D-356
- Log Skidding by Tractor*, D-377
- Air Powered Hand Tools*, D-392
- Portable A.C. High Voltage Insulation Test Sets*, D-393
- Jet Tapping of Open Hearth Furnaces*, D-394



Look to this page each month for latest news about NSC services. Address requests for additional information, samples or prices to the Membership Department.

For a More Successful Poster Program



JUMBO POSTER for NOVEMBER 1955

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".

SAFETY BANNER FOR NOVEMBER, 1955

Here is the attention-getting, monthly cloth banner. Available in two types—indoor and outdoor—both are identical in size (10 feet long by 40 inches high), have the same general message and multi-colored design. Indoor type is of sturdy drill with grommets for easy hanging, while the outdoor banner is of extra heavy drill, with wind vents, and has strong stitched-in rope for durability.



NATIONAL SAFETY COUNCIL
0475-A 8½x11½

This new four color poster is illustrative of the 72 four color posters shown in the 1955 Poster Directory.

NONE OF US CAN



AFFORD

AN ACCIDENT

NATIONAL SAFETY COUNCIL



Reproduction of posters available on this page are not available, nor are printed inserts for display.

Revised Safety Poster Directory, 1955

Posters below are printed in two or more colors

(Available only in sizes indicated)



NATIONAL SAFETY COUNCIL

0587-C

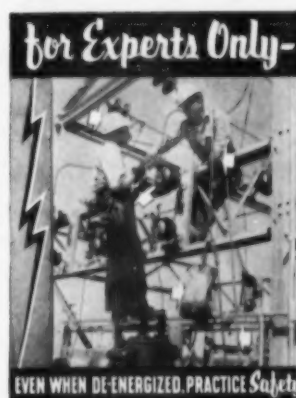
25x38



NATIONAL SAFETY COUNCIL

0574-A

8½x11½



NATIONAL SAFETY COUNCIL

0573-A

8½x11½



NATIONAL SAFETY COUNCIL

0425-A

8½x11½



NATIONAL SAFETY COUNCIL

0473-B

17x23



NATIONAL SAFETY COUNCIL

0555-A

8½x11½



NATIONAL SAFETY COUNCIL

0482-B

17x23



NATIONAL SAFETY COUNCIL

0429-B

17x23



NATIONAL SAFETY COUNCIL

0537-B

17x23

Electrotypes of payroll inserts can be furnished in all poster illustrations shown above.

Posters below are printed in two or more colors

(Available only in sizes indicated)



NATIONAL SAFETY COUNCIL

0562-A

8½x11½



NATIONAL SAFETY COUNCIL

0535-A

8½x11½



NATIONAL SAFETY COUNCIL

0584-B

17x23



NATIONAL SAFETY COUNCIL

0539-A

8½x11½



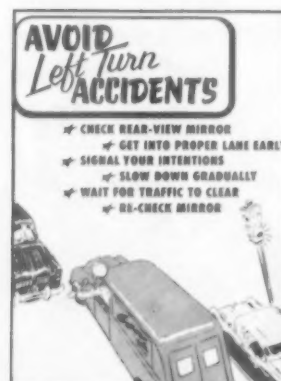
NATIONAL SAFETY COUNCIL

T-9639-C

25x38

T-0561-A

8½x11½



NATIONAL SAFETY COUNCIL

V-0578-A

8½x11½



NATIONAL SAFETY COUNCIL

V-0581-A

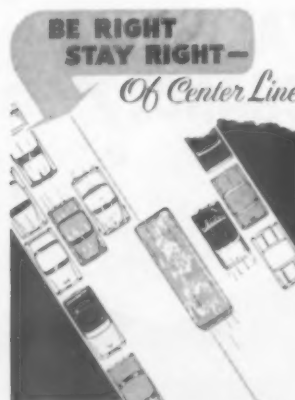
8½x11½



NATIONAL SAFETY COUNCIL

V-0579-A

8½x11½



NATIONAL SAFETY COUNCIL

V-0580-A

8½x11½

Electrotypes of payroll inserts can be furnished in all poster illustrations shown above.

Study Radioactivity

—From page 88

"It is vital that there should be no repetition of the tragic effects on the health of workers that have resulted in the past from the lack of clear standards and fully enforced precautions in various industries in so many industrialized countries.

"In the legislative field much has been accomplished already, or is about to be undertaken, in countries such as Australia, Austria, Brazil, France, the Federal Republic of Germany, New Zealand, Norway, Sweden, Switzerland, Turkey, the United Kingdom and the United States, but much remains to be done.

Role of I.L.O.

"It is in the field of labor protection and more particularly in matters of safety, health, welfare and workmen's compensation that the International Labor Organization considers that it has a valuable contribution to make to the common cause.

"It is less concerned with those aspects of the matter which relate mainly to the economic implications of the application of nuclear power on a large scale, or to public health, or to the purely scientific, medical and agricultural applications of atomic energy and its by-products.

"At its 38th Session, held in June, 1955, the International Labor Conference adopted a resolution in which, among other things, it requested the Governing Body of the International Labor Office, in the light of the information available as the result of the International Conference on the Peaceful Uses of Atomic Energy, to consider what part the ILO can play in advising and assisting governments and industry in promoting the highest possible standards of health, safety and welfare among workers in atomic plants and in other undertakings affected by the development of the industrial uses of atomic energy.

"As long ago as 1949, the International Labor Office showed that it was aware of the importance of ionising radiations in modern industry by convening a

How To Specify An Abrasive Tread

that will last the life of your building

There are four factors that make an abrasive metal tread safe and durable: (1) Weight of the abrasive granules per square foot, (2) size of the granules, (3) uniformity of distribution, (4) average number of granules per representative square.

Feralun abrasive metal treads are quality-designed and made. They have a full measure of non-slip granules. And they are cast to last the life of your building. For handy reference, here's a simple short form specification:

clip
and file

Treads, Thresholds, Elevator Door Sills, Floor Plates, Trench Covers - Exposed wearing surface to contain not less than two (2) ounces per square foot of abrasive granules embedded in the top metal surface not less than 1/16 inches while the matrix is in a molten state. Size of non-slip granules shall range from #16 to #24 and distributed uniformly over the surface in such a manner that not less than an average of ninety (90) individual granules can be counted in any three representative 1/2" x 1/2" squares of any portion of the finished surface.

Pattern of finished abrasive surface shall be either "hatched", "fluted" or "plain", as required. Of (Feralun, Alumalun, Bronzalun, Nicalun) non-slip abrasive metal, as fabricated by the American Abrasive Metals Company, Irvington, N. J., or of approved equivalent in kind, quality, function and characteristics.

Why FERALUN provides lasting safety

Here is an unretouched photograph of a Feralun tread taken after acid treatment. (Paint is removed and acid is used to eat away the metal base so as to isolate the actual abrasive content of the tread.) Note the full and even distribution of abrasive—for greater safety, longer wear.

Here is an unretouched photograph of an abrasive tread, purchased on the open market of the type often offered as an equal of Feralun, after the identical acid test. Note the meager amount of abrasive and spotty distribution.

SEE SWEETS CATALOG—12b/Am.

FERALUN

AMERICAN ABRASIVE METALS CO. • IRVINGTON 11, N. J.



Du Pont **PRO-TEK**® keeps irritants from reaching the skin!

You save production time when you keep irritants away from workers' hands with Du Pont PRO-TEK. It's the heavy-duty protective cream that acts like invisible work gloves. PRO-TEK goes on hands and arms before work and shields the skin from grease, grime, paint and insoluble cutting oils. Afterward, PRO-TEK simply washes off—taking all the irritating grime along with it! Saves job time, maintains efficiency, boosts morale. Order PRO-TEK from your supplier, or write E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware.

"Invisible gloves"
guard hands against:

- GREASE • GRIME
- STAINS • PAINT
- OIL



Better Things for Better Living
... through Chemistry



Stop Being Old Fashioned

Stop using hand, foot and bar methods of closing latch-type lock hopper bottom car doors. Use the Prescott Safety Tool and prevent ruptures, strained backs and smashed fingers. Write today for free folder.

The Trumbull Mfg. Company
WARREN, OHIO

meeting of experts on dangerous radiations and devoting to this subject a whole chapter of the 'Model Code of Safety Regulations for Industrial Establishments for the Guidance of Governments and Industry.' This chapter, which comprises over 200 provisions, was in fact the first set of international safety and health standards for the industrial use of X-rays and radioactive substances.

"Although the Model Code has in no sense the binding force of an international convention, it might be of interest to point out that several governments have used it as a basis for the preparation of their own regulations. For example, it has recently been used in this way by the British Government in the preparation of statutory regulations which will control the use of X- and gamma rays in factories and other industrial establishments.

"It should also be mentioned that pathological manifestations due to X-rays, radium and other radioactive substances are included among the compensable occupational diseases listed in the Convention concerning workmen's compensation for occupational diseases adopted in 1934 by the International Labor Conference, and ratified by 29 countries. These manifestations are now compensable as occupational accidents or diseases in a total of 49 countries. It is, however, possible that the extension of the peaceful uses of atomic energy to countries that are relatively less advanced and whose legislation in this respect is inadequate will create certain difficulties."

A meeting of occupational health experts held in Geneva in December, 1954, under the auspices of the International Labor Organization recommended, as one of the items to be included in the international list of occupational diseases to be notified to the labor inspectorate or other authority concerned with the protection of the health of workers in places of employment, "diseases due to ionising radiations such as X-rays and radiations from radium or other natural or artificial radioactive substances."

Are We Afraid of The Wrong Things?

The average man is afraid of falling; he is afraid of snakes; until he learns to swim he is afraid of drowning; he is afraid of wild animals.

Man is not inherently afraid of moving machinery. He does not fear high speed of automobiles. Explosive vapors do not scare him. Nor do any of the things that cause accidents in modern life.

Fear of falling prevents falls from high places. Fear of snakes protects people even in snake infested areas. Fear really protects us from many things that are no longer dangerous.

Because we have no inherent fear of some of the real dangers of modern life, we take chances with them. We take no chances with dangers such as snakes or floods or storms. Yet the things we fear present nothing comparable to the things that cause accidents.

Are we afraid of the wrong things?

—Sinclair Safety Service
Sinclair Gas and Oil Company

OOPS... A Mistake!

When the government makes a mistake in printing currency or postage stamps, as happens occasionally, the mistakes that escape and get into circulation become collectors' items and sell at fancy prices.

But when a mistake gets into a publication, it's just a source of embarrassment and expense to the publishers.

That's what happened in the Council's new booklet on fire prevention for employees and the general public, *Don't Make an Ash of Yourself*. Some of the statistics were out of line and in the extinguisher chart on the outside back cover several of the extinguishers were wrongly labeled. The errors were obvious to anybody who was familiar with the various types of extinguishers.

The announcement mailing got away before the mistakes were discovered. A correct edition is being prepared and 250,000 copies on hand are being destroyed.

Britain to Hold Industrial Safety Week

THE WEEK of October 24-29 has been announced in Great Britain as National Industrial Safety Week. Directing the drive is the Royal Society for the Prevention of Accidents with headquarters in London.

Object of the campaign is to encourage all workers, particularly young workers, to "start a Safety Habit Today," and to re-

member that "Safety Habits Last a Lifetime." During the launching week of the campaign it is hoped to introduce these two slogans into every industrial establishment in the United Kingdom. An assortment of promotional material is being sent to all British industries.

The Society points out that some 235,000 factories and workshops in the country have little or no safety organization.

LOW COST way to make your factory

NOISE - SAFE
with Bemis **TRANSWALL**



Reduce Factory NOISE as much as 22 Decibels

NOISE IS COSTLY . . . control it with TRANSWALL. Here's the new low cost sound barrier that isolates noisy areas anywhere in your factory, yet readily retracts for materials movement. TRANSWALL is flame resistive for safety.

TRANSWALL SOUND BARRIER INSTALLATIONS are custom engineered by qualified acoustical contractors. Some installations show direct reduction of 22 db in "open" and "closed" readings; even more in "before" and "after" readings. TRANSWALL is particularly effective in stopping higher frequencies.

TRANSWALL is easy to install. Nylon rollers support the curtain in overhead track. Layouts may be readily changed to suit new floor plans, yet noise reduction is great enough to make 95% of factory areas noise-safe.

A FEW
TRANSWALL
LAYOUTS . .



ISLAND ENCLOSURE straight or curved tracks.	CORNER ENCLOSURE 2 straight curtains.	OFF-THE-WALL ENCLOSURE 3 straight curtains.	CURVED TRACK ENCLOSURE single curtain.

MAIL THIS COUPON TODAY!

BEMIS BRO. BAG COMPANY

325-C 27th Avenue N.E., Minneapolis 18, Minn.

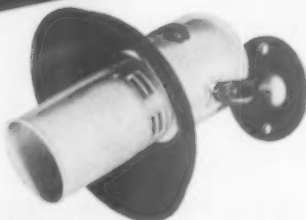
Gentlemen: Please rush me complete information on TRANSWALL, including actual Case Histories of noise-safe installations.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____



MODEL 32 HORN

FOREWARNED IS FOREARMED!



MODEL "J" SIREN

It may be a trite old saying but it sure applies to many industrial hazards.

Keep people out from under suspended loads—away from moving cars and open hatchways—keep people away from danger spots and they don't become victims!

Modern audible signals are life savers! They can communicate a danger warning just as easily as they can indicate start and dismissal or call some special person to the phone. They are dollar savers as well as life savers in every phase of industrial or public building operation. Look over your property—see where lack of signals has been letting money run down the drain—if not adding to human misfortune.

FEDERAL has a signal for every purpose—write for literature.

FEDERAL SIGN and SIGNAL

formerly: Federal Enterprises, Inc.

8725 S. State St., Chicago 19, Ill. **Corporation**



FOR SAFETY'S SAKE... DAV-SON FLASHING SAFETY DIRECTOR

With Amazing Changeable Letter Slide Out Panel

Bright traffic light red, green spots flash "SAFETY FIRST." Color, motion, light bring eyes directly to message. Only DAV-SON has changeable letter design with removable panel for quick changes, peak attention. 98 red 3 1/2" and 250 black 1 1/2" acetate letters in compartment box incl. Size 18 1/2 x 29 x 6. Complete with lamp and U.L. Cord. \$39.75

Insist on genuine self-sealing cork back bulletin boards—hardwood frame. Sizes 12x18 and larger. With or without glass doors. \$4.15 up. Also with metal frames for inside or outside use.

A Dav-Son board for every purpose. Over 100 different sizes and styles to choose from. Dealer Inquiries Invited. If your dealer doesn't have the Dav-Son board you need write direct.

A. C. DAVENPORT & SON, INC., Dept. NSN
311 N. DESPLAINES STREET • CHICAGO 64, ILLINOIS



Standards Engineers To Meet in Hartford

RECENT DEVELOPMENTS in applying standards to progress in industry, government, and distribution will be discussed at a national convention of the Standards Engineers Society at Hartford, Conn., September 29 and 30, and October 1.

The convention will open at 9:15 a.m., September 29, with a series of panel discussions. Cyril Ainsworth, technical director of the American Standards Association, will speak in the negative on the topic: "Should Standards be Mandatory?"

"Standardization of Electrical Apparatus" will be explained by H. P. Michener, of the National Electrical Manufacturers Association. On the same general subject, "Standardization of Electronic Components" will be explained by Virgil M. Graham, of the Radio-Electronics-Television Manufacturers Association.

"Organization of the Company Standards Program" will be discussed by K. W. Truhn, Bendix Aviation, and G. F. Gagne, Jr., of G. F. Gagne, Jr., Associates.

A meeting highlight will be awards to outstanding engineers who have contributed to the development and use of standards at a luncheon on Friday, September 30. Previous recipients have included Herbert Hoover, Vice Admiral George F. Hussey, Jr., USN (Ret.), and Dr. Paul G. Agnew (posthumously).

Friday morning speakers will be Dr. C. R. DeCarlo, Director of Applied Science at IBM World Headquarters, New York, and C. J. Lawson, Director of Standards at IBM World Headquarters. They will discuss "Without Standards, No Automation!"

The dude and the hillbilly were both recruits occupying adjoining bunks in the barracks. One morning the dude inspected his toilet kit, glanced at his neighbor and asked: "Did you take my tooth paste?"

"Naw, I didn't take no tooth-paste," was the reply. "I don't need none. My teeth ain't loose."

If a Hurricane Hits Your Town



THIS is the season for hurricanes.

Every year these violent windstorms cause untold damage, loss of life. Though relatively few in number, they extend their destructive forces across large areas.

Last year, according to the National Board of Fire Underwriters, losses resulting from Carol, Edna, and Hazel cost the capital stock fire insurance companies \$225,000,000 in claims paid.

Hurricanes are circular revolving storms. Born in tropical regions of the Atlantic or Caribbean, they usually move westward or north-westward, then swing in a curve toward the north or northeast. Their paths vary considerably. Some travel thousands of miles at sea, never come near the mainland; others strike at points on the Gulf of Mexico or the Atlantic Coast. From Yucatan to Nova Scotia their devastating effects have been felt, sometimes far

inland.

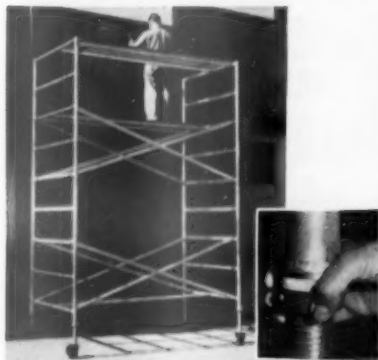
Usually these storms develop between the middle of June and the middle of November. The period of greatest activity is early September.

A hurricane may be as small as 50 miles in diameter, but the majority are bigger—in many instances 500 miles across. Winds at the outer limits are light, gusty, gradually increasing in intensity toward the storm center.

Two-hundred-mile-an-hour

Aluminum Scaffolds . . .

by The Patent Scaffolding Co.



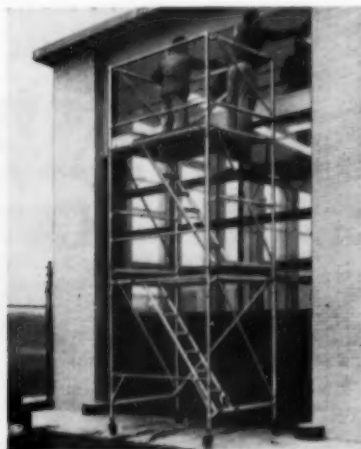
NEW 4'6"-WIDE LADDER SCAFFOLD

This 4'6"-wide aluminum ladder scaffold provides added stability and extra working room for painting, cleaning, relamping and general maintenance jobs. Base section is 6' high. Other heights are achieved by combining other ladder units of 4' and 5'4", and using 24" leg adjustment (inset). Leg adjustment (on all three Scaffolds) is built in and gives safe, positive height adjustment without lifting scaffold. Two quick turns raise or lower one full inch. Diagonal braces give 6', 8' or 10' spans. Smooth-rolling rubber-tired casters. Write The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y., Dept. NSN.



2'-WIDE LADDER SCAFFOLD

Has same features as 4'6"-wide scaffold, but is only 2' wide. Ideal for maintenance work in narrow hallways and aisles. Rolls right through standard 30" doorway. Can be used with diagonal braces to give spans of 6', 8' or 10' platform. Compact—parts lie flat and take up little room. Write The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y., Dept. NSN.



SCAFFOLD OPENS LIKE A BOOK

One man can erect the base section of the "Fold-A-Way"® Scaffold in less than a minute. End frames swing open sideways, while the base section is in a standing position, making an easily managed swing of about 90°. Adding additional 6' sections takes just a few minutes. Basic unit is 4'6" x 6' and is 7' high including rubber-tired casters. Ball bearing extension legs permits height adjustment up to 24". Approved by Underwriters Laboratories, Inc. For more information write The Patent Scaffolding Co., Inc., 38-21 12th St., Long Island City 1, N. Y., Dept. NSN. (*Trade Mark)

gusts may be encountered in a hurricane. Winds with a sustained velocity of 100 miles an hour are common. The center of a hurricane, about 14 miles in diameter, is an area of dead calm or of light variable breezes. Around this center the storm winds revolve counter-clockwise.

Thus, as the center of a hurricane approaches, the wind slowly increases to maximum violence, then drops off rather suddenly as the calm center of the storm passes. After the center has gone

by, the reverse happens. The wind rises sharply, but from the opposite direction, then slowly diminishes as the storm moves away. The entire storm progresses generally at a speed of 10 to 15 miles an hour.

Needless loss of life and property can often be avoided. Here is how you can protect yourself, your family, and your property:

Before the Storm

1. Stay tuned to radio and tele-

vision broadcasts of latest Weather Bureau information. In case of power failure, a portable, battery-powered radio would come in handy.

2. Stay inland. Get away from beaches and the low lying waterfront. It may be swept by storm waves. Hurricanes bring abnormally high tides, high waves.
3. If your passage to safety is over a road likely to be under water during a severe storm, leave early. Otherwise you may be trapped by high winds and rising waters preceding the arrival of the storm center by several hours. Travel at the height of the storm is exceedingly dangerous.
4. If your house is out of danger of the waves and is substantially built—anchored to strong foundations and with its roof securely fastened—it's possibly the best place for you to stay.
5. Put loose material and movable objects such as boards, garbage cans, and porch furniture where they cannot be blown against a building or through a window. Movable awnings should be raised and securely tied or removed entirely.
6. Keep trees pruned away from your house. Dead branches, overhanging branches, and those which may sway against windows or roof are the ones most likely to cause damage.
7. In seriously threatened areas board up windows or put storm shutters in place, at least on the sides exposed to the most violent winds. Shutters should be securely fastened several hours in advance of the expected arrival of the storm. They are difficult to handle in a high wind.
8. If boards are used, they should be of good lumber and substantially attached to the building. Makeshift boarding or insecure shutters often blow loose, do more damage than none at all.
9. Garage doors and others having large exposed areas must be secured particularly well.
10. One or more windows can be kept open on the lee side—the side opposite that from which the wind is coming—to provide some ventilation and, under certain conditions, to prevent wind damage.
11. If wind or flying objects make an opening on the windward side of the building, wind pressure will build up within the building. Having an opening on



Features

2 New Safety Solvents at the National Safety Show Booth 301

A NEW ALL PURPOSE INDUSTRIAL DEGREASER

Safety-Solv

No Toxicity Problem—No Fire Hazard—Dilutes with Water

Cleans all types of oily and greasy soils. Especially effective for cleaning industrial machinery and equipment, de-sludging fuel oil deposits, removing exhaust deposits, and cleaning aircraft surfaces.

... and a new, versatile tank-type carbon remover

Multisol

Effective action with maximum safety, non-inflammable.

Multisol is a two layer liquid. The upper layer is a floating water seal to prevent loss of solvent vapors, reduce drag-out loss of material and to rinse the parts as they are removed from the solvent. The lower layer is a combination of solvents, penetrating agents and emulsifiers formulated to break the bond between metal surface and carbon, paint, grease and gums. Solution retains its original strength indefinitely. It is free of caustic, is non-corrosive to aluminum, brass, zinc, tin plate and magnesium.

For information write to

BRULIN AND COMPANY, INC.

INDIANAPOLIS 7, INDIANA • 2937-45 COLUMBIA AVENUE
OAKLAND 7, CALIFORNIA • 1793 WEST 12TH STREET

the leeward side will allow this pressure to escape, minimizing the interior forces tending to lift the roof or push out the leeward walls.

12. Only small openings in the leeward side are advisable as long as the windward side remains intact. But as soon as windows are broken on the windward side additional openings should be provided on the lee side to help equalize the pressure.
13. Have a flashlight in good working condition readily available. Be careful of fire. If oil lamps or candles must be used for emergency lighting, use them most carefully. A bucket of sand can be used to absorb spilled fuel or to smother a small oil fire. Better still is a fire extinguisher of a type approved for use on flammable liquids. Be sure it is in good condition and you know how to use it.
14. Have extra food on hand, food that can be eaten without cooking. Electric power failure may leave you without refrigeration.
15. Emergency cooking facilities should be in safe working con-

dition and preparation for their possible use should be made in advance. Be particularly careful when using appliances which may be in questionable condition because of long disuse. They may cause a fire.

16. Sterilize and fill jugs, bottles, or cooking utensils with fresh water. The water supply may fail. A tub filled with water may be useful, too.

After the Storm

1. Even for some time after water service is restored, it may be wise to boil or sterilize drinking water until otherwise advised by your local health department.
2. Don't touch dangling or loose powerlines or electric wires. In a storm live power lines may become entangled with metal fences, telephone and other wires. Contact, in some cases, would be fatal.
3. Don't hinder first aid and rescue work. Unless you are qualified to render valuable emergency assistance, stay away from disaster areas.
4. If you must drive immediately

after a hurricane, drive carefully. Watch for fallen wires and tree branches. In coastal areas or near swollen streams, beware of wash-outs. The pavement may be undermined.

5. Be careful of fire at all times. Damaged communications might result in a delayed fire alarm; debris-obstructed streets would slow response of the fire apparatus and low water pressure could make fire-fighting difficult.

The best way to earn a rest is to finish that job.

The marble tournament was in full swing. One boy missing an easy shot let out a real cuss word. "Edward!" came the shocked voice of the minister who was passing. "Do you know what becomes of little boys who swear when they play marbles?" "Oh, they grow up and become golfers," was the reply.

INTRODUCING... LIGHTWEIGHT, PORTABLE EXPLOSION-PROOF FLOOR MAINTENANCE EQUIPMENT by **HILD**



Model No. 315
Vacuum

CUTS CLEANING TIME AS IT PROVIDES SAFETY IN VOLATILE GAS AND DUST AREAS

Chemical plants, paint and starch manufacturers, refineries, distilleries, flour and grain mills—and other industries where electric sparks are a danger but where explosion-proof equipment available heretofore was too large and cumbersome—are now able to cut cleaning time and costs to a fraction. By using interchangeable attachments, a variety of clean-up jobs can be performed with HILD's Explosion-Proof machines, from floor scrubbing to dust and liquid pickup.

HILD EXPLOSION-PROOF WET and DRY VACUUMS

Can be used for cleaning floors, walls, all hard to reach places, such as overhead pipes and beams, ceilings, bins, shelves and machinery, and for removing "floating" dust. Powerful air

suction picks up every drop of moisture. Combustible material removed easily and safely. Moisture in air stream cannot damage specially-designed HILD By-Pass motor. Wet and dry pickup accomplished without adjustment or change of filters. Powerful $\frac{3}{4}$ H.P. explosion-proof motor operates on AC or DC. Safety electric switch by Appleton. Hoar and caster treads made of static conductive rubber. Model 306—6 gallon wet or $\frac{3}{4}$ bushel dry capacities. Model 315—10 gallon wet or $1\frac{1}{4}$ bushels dry capacities.



HILD CX EXPLOSION-PROOF SCRUBBER-POLISHER

A multi-purpose machine. Used with easily interchangeable attachments to scrub, wax, polish and buff floors of all kinds. Motor and Appleton safety switch are totally enclosed. Bumper and wheels made of static conductive rubber. Spark-proof copper mesh cable used between connector and motor. Brush spread in popular 16-inch size.

Write today for circular giving complete details about
Hild Explosion-proof Maintenance Equipment.

Maintenance Equipment & Supplies for Every Floor Need.

HILD FLOOR MACHINE CO.

740 W. WASHINGTON BLVD., CHICAGO 6, ILL.

Factory Branches: 250 E. 43rd Street, New York 17, N. Y.

4271 W. Third Street, Los Angeles 5, Calif.

Export Division: 306 W. Washington Blvd., Chicago 6, Ill.

HILD FLOOR MACHINE CO., 740 W. Washington Blvd., Chicago 6, Ill.

Gentlemen: Send details on following:

☐ HILD Explosion-Proof Vacuums ☐ HILD Scrubber-Polisher ☐ All HILD Equipment and Supplies

Name _____

Company _____

Address _____

City _____ Zone _____ State _____ NON-0-95

Was It Worth 11 Minutes?



ON JULY 2, while enroute from Dallas to Paris, Texas, Bill Leonard, director of safety and insurance for The Southland Corporation of Dallas, pulled into a service station at Greenville, to

fill his car with gas and check the oil.

While the attendant was checking the gas and oil, Bill unloaded his safety charts and easel, set up the equipment in the station

driveway, and held a traffic safety meeting—promoting “Slow Down and Live” program (and July 4 weekend Safe Driving Cautions).

It took four minutes to unload and load the equipment back into his car. The safety talk took six minutes—discussing the tragic toll statistics of vehicle accidents, and throwing out a few cautions for July 4th holiday driving. The talk was climaxed by a one-minute showing of this chart in the picture, “Safety Is Everyone’s Business—24 Hours a Day.”

Five customers at the service station and the cameraman attended this meeting. Just six people—all preparing to sail off down the highway to a happy Fourth of July holiday.

Was it worth 11 minutes?

“Well,” says Bill, “there were three teen-agers present, and I believe they were a little bit impressed. All six people were of the opinion that safety is not publicized enough to curb don’t-care attitudes.”

Those six people were all go-

**HERE'S
PROTECTION**

against
**FIRE
THEFT
SABOTAGE**

CHICAGO Watchclock System

“The first... and still the first.”
LOWERS YOUR INSURANCE RATES!



It keeps track of your watchman's tracks—so accurately and positively that the CHICAGO WATCHCLOCK System is approved by THE UNDERWRITERS' LABORATORIES and by THE FACTORY MUTUALS LABORATORIES. Users earn reduced insurance rates. Thus the CHICAGO WATCHCLOCK System quickly returns its small cost to you.

Write for FREE

new folder that completely describes this simple, low-cost, tamper-proof system of extra protection to property. Write for it NOW!



CHICAGO WATCHCLOCK

DIV. GREAT LAKES INDUSTRIES, INC.

1524 S. WABASH AVE., CHICAGO 5, ILL.

OFFICES IN PRINCIPAL CITIES

ing to be on the highways in the July 4 traffic parade.

Recently, Bill spoke on traffic safety to 970 junior high school students in an East Texas school. And a few days ago he drove from Dallas, 85 miles, late one afternoon to speak on traffic safety to a group of five people. After the meeting he drove 85 miles back to Dallas.

Bill, who has won the reputation of being the South's No. 1 safety salesman, will hold a safety meeting anywhere. He feels that a little bit of safety will rub off on people now and then.

Your Children and The Baby Sitter

How MANY PERSONS die as a result of fire in the United States every year? How many of these are children?

According to the National Board of Fire Underwriters, the record is:

Approximately 11,000 persons die as a result of fire. Of that number, children five years old or younger account for at least 20 per cent of the total.

Why are these children so often fire victims?

One reason is their utter helplessness as babies, more often their inquisitiveness and lack of fear of fire. And if trapped, as in a burning building, they are powerless to help themselves.

Children of this age, of course, should never be left at home alone at any time. But before entrusting their youngsters to baby-sitters, parents should:

1. Know the sitter, make inquiries about training and family background.
2. Employ only sitters who have a sense of responsibility and who like children.
3. Try to have the same sitter regularly if possible, and one who lives nearby.
4. Have a preliminary interview with sitter. Acquaint her with children and pets, especially the watch-dog.
5. Give instructions orally and leave them in writing.
6. Show sitter all exits and how to get children out of house in case of fire.

7. Give the sitter the telephone number of the fire department, family doctor, and place to which parents or adult members of the family are going. Also, what neighbor to call in the event of any emergency.

8. If there is no phone, explain to sitter other means of notifying fire department in case of a fire.

9. Caution sitter against permitting child to play with matches, electric cords, or other electric appliances. Also, tell her to keep the child out of the kitchen, if possible.

10. Leave a first aid kit with sitter

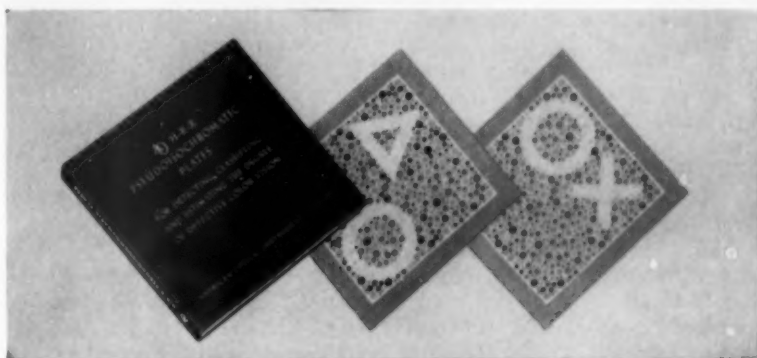
and explain how to take care of simple burns, cuts, bruises.

11. Be sure sitter understands that in a fire emergency she should first get the child out of the house, then call the fire department, then notify parents.

12. Provide flashlights for use in case lighting should fail.

13. Always come home at the hour agreed upon; telephone if delayed.

14. Make suitable and safe arrangements for accompanying the sitter home.



Completely New

AO H-R-R COLOR BLINDNESS TEST

Most Accurate and Comprehensive Low-Cost Test Ever Developed

The New AO Hardy-Rand-Rittler color test answers a long felt need for an easy-to-give, comprehensive, low cost color blindness test. It is the result of more than ten years of scientific investigation, production and validation by eminent optical authorities.

It offers a simple way to insure job efficiency and prevent costly errors by rapid testing of workers whose jobs demand the ability to distinguish certain colors.

The test not only detects people who have Red-Green and/or Blue-Yellow color blindness but also types the deficiency and estimates

the degree of defective color vision present.

To make color testing easy the new test has been designed for the utmost simplicity of administration. For the vast majority of people it is completed in seconds. Simple, detailed instructions and understandable scoring sheets are part of the test. The recognition symbols used . . . the circle, triangle and cross are universally understood and the ingenious pattern of the plates allows no clues for memorization.

AO offices are located in nearly 300 major cities, or write

American Optical
INSTRUMENT DIVISION
BUFFALO 15, N. Y.

Dept. U212. Please send complete information on the H-R-R Color Test.

Name
School Title
Address
City State

PERSONALS



Carl L. Smith Retires

CARL L. SMITH, executive vice president and secretary of the Cleveland Safety Council who has managed the affairs of the Council for the past 29 years, July 27 presented his resignation to the Cleveland Safety Council's Board of Control. The Board accepted the resignation with deep regret, voted Mr. Smith a generous retirement income, and dedicated the Cleveland Safety Council "as a permanent memorial to the cause of safety in the name of Carl L. Smith."

According to Harold H. Gorman, president of the Council,

Mr. Smith's resignation will become effective October 1 and for one year thereafter he will serve



Carl L. Smith

as a consultant to the Safety Council on all problems presented to him. As of October 1, 1956, his retirement will be complete.

As a field representative of the National Safety Council, Carl Smith organized the Cleveland Safety Council in 1918, and became its manager in 1926. Under his direction the Safety Council began the "Green Cross for Safety Campaign" which now has approximately 200,000 contributing members and which brings in approximately \$75,000 per year to augment the Council's budget for public safety work in the Greater Cleveland area.

Over the years the Cleveland Safety Council has provided leadership in major areas of accident occurrence and has won national recognition for its contributions to safety.

It was announced that Mr. Smith will move to Florida in October but will spend September working with his successor, who has been selected and is scheduled to devote a major portion of his time to the affairs of the Council during that month, and who will report for full-time duty October 1.



$\frac{1}{4}$ Million

BELTS CAN'T BE WRONG

**AUTO-CRAT AUTOMOTIVE SAFETY BELTS
THE ARISTOCRAT OF SEAT BELTS**

MANUFACTURED BY
ASSOCIATED SUPPLIERS COMPANY
2736 CLEARWATER STREET • LOS ANGELES 39, CALIF.

SEE US IN BOOTH 226
NATIONAL SAFETY CONGRESS AND EXPOSITION

FRANK E. CASH will retire October 8 after 33 years in the mining and safety divisions of the United States Bureau of Mines.

While serving the mining, petroleum, and allied industries as mining and supervising engineer, he was located in the following cities during the periods named: Pittsburgh, Pa., 1923-25; Birmingham, Ala., 1925-41; Duluth, Minn., 1941-49; College Park, Md., 1949-50, and Washington, D. C., 1950-55.

EARL C. YOHE has been appointed safety supervisor at the P. H. Glatfelter Company's paper mill in Spring Grove, Pa.

Mr. Yohe joined the company in 1946 following three and one-half years' service in the U. S. Army during World War II.

OTTO R. SCHURIG, who retired recently as safety engineer with General Electric Laboratory, Schenectady, has joined the faculty of Union College, Schenectady, as professor of electrical engineering. During his 38 years with G-E Mr. Schurig received nine patents in addition to his work in the development of other inventions.

POSITION WANTED

Safety Engineer. In present job for past 12 years. Have been directing successful safety program in large rayon plant. Prior to entering safety field was analytical and production chemist in field of synthetic fibers. College man. Excellent references. Address Box 454, National Safety News.

SAFETY SUPERVISOR (AGE 30-35)

Desired for career opportunity with a major oil company in South America. Work involves industrial safety engineering in oil industry and related activities. Minimum requirements: engineering degree plus five years overall experience in accident prevention work, with oil industry or construction experience preferred. Must be an experienced conference leader with a background in preparation and presentation of safety training for workers and supervisors and must have had experience in the formulation and administration of accident prevention programs. Salary and bonus approximately \$12,750. Liberal benefits, tax savings and home vacations with travel expenses. Interviews will be arranged for candidates whose resumes indicate potentiality. Replies confidential. Box 1221, Dept. C-46, New York 1.



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Let WASHINGTON's progressiveness and reputation for 'finer' equipment
be your guide in buying the BEST.

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With WOOD SOLE STEEL TOE

They Protect **SHOES**
They Insulate
They're Punctureproof



Reece has a
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REECE WOODEN SOLE
SHOE CO.

DEPT. N-S-9-55

COLUMBUS, NEBRASKA

There is no
substitute
for Reece
Wooden
Soles

WHEN SECONDS COUNT!

PATENT APPLIED
FOR



IPCO "WASH-AWAY" BOTTLE

Medical authorities agree that immediate washing with plain water is the first requisite in the event of corrosive material entering the eyes, seconds saved between contact and eye washing being a determining factor in the degree of eye injury.

The IPCO WASH-AWAY BOTTLE was developed as a means of providing individual workers or small groups with a supply of water within reach for immediate washing of the eyes in the case of accidental exposure. . . . Bottle of unbreakable Polyethylene plastic provides a continuous flow of 7 to 8 minutes duration. A sound first-aid procedure.



WRITE FOR BULLETIN NO. 91

Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY

2850 N. FOURTH STREET • PHILADELPHIA 33, PA.

FOR SAFETY and PROTECTION FROM THE WET • GREASE • OILS • ORDINARY ACIDS

TOWER'S FISH BRAND

* NEOPRENE



These sturdy, durable, 100% DuPont **NEOPRENE** garments give that extra service to those who require protection from greases, oils, and most acids. There is a TOWER protective garment especially adaptable for every type of industrial activity. For those not needing this extra protection, there are available regular FISH BRAND oiled, and ARROW BRAND rubber garments made in all styles including jackets, pants, coats, aprons, and hats.



*A chemical rubber product of the DuPont Company.

All good dealers carry these items or can get them for you. For folder of styles and detailed information write Department NS.



NEOPRENE

RUBBER

A. J. TOWER CO.

24 SIMMONS ST. BOSTON, MASS.



Health Forum to Discuss Chronic Illness

Theodore G. Klumpp, M.D., president of Winthrop-Stearns, Inc., pharmaceutical manufacturer, and a vice-president of the National Health Council which annually conducts the National Health Forum, will be chairman of the 1956 Forum, to be held March 21-22 in New York City.

Hugh R. Leavell, M.D., Council president, announced the appointment after the Council's Board of Directors had accepted the recommendation of the Forum Planning Committee that next spring's conference concern itself with chronic illness. Dr. Klumpp is a director and treasurer of the Commission on Chronic Illness, which will complete its work and terminate its corporate life in June, 1956.

Dr. Klumpp is now forming his 1956 Forum Committee. This group will determine just how to carry out the request of the NHC Board that next year's Forum "identify specific activities under way to improve the care of the long-term patient" and "point up community responsibility for concerted action on chronic illness."

"Chronic illness is a tremendous problem that will continue to grow as we find new ways to prevent or control the acute illnesses and lengthen the life span still more," said Dr. Klumpp.

Announce Course in Occupational Skin Problems

THE INSTITUTE of Industrial Health of the University of Cincinnati announces that a course in Occupational Skin Problems will be given during the week of October 10-14. It will be presented by the Department of Preventive Medicine and Industrial Health, University of Cincinnati, in collaboration with the Occupational Health Program of the United States Public Health Service, and the Department of Dermatology and Syphilology of the University of Cincinnati.

The program will be divided into three daily sessions, consisting of morning lectures and clin-

ical demonstrations, afternoon field instruction in industrial plants, and evening panel discussions.

Physicians interested in attending the course should write for an application blank to Secretary, Institute of Industrial Health, Kettering Laboratory, Eden and Bethesda Avenues, Cincinnati 19, Ohio.

Safety Manufacturer Gets Advertising Award

This year, for the first time, a manufacturer producing safety products exclusively, was the recipient of the National Industrial Advertisers' Association annual award. The E. D. Bullard Company of San Francisco, headed by E. W. Bullard, was recently honored with the Topper award for its "effectiveness of advertising performance." The award is recognition of the importance of safety equipment advertising.

The firm's advertising manager, George Andrews, believes that in theming advertising it is of the utmost importance to stay as close to the man in the field as possible. He feels that the safety engineer should be fully aware of any limitations in the equipment he is using.

In 1927 advertising was directed to the mine operators, with a description of the "hard-boiled" hats and how they could best be used.

In advertising the latest hats a different approach is taken. Illustrations show the hats being subjected to tests, and detailed information on the results are provided for the benefit of the safety engineer.

The San Francisco firm of Wank, Lougee, McDonald and Lee has been handling the E. D. Bullard advertising program since 1927.

Jobs increase faster than population, multiply faster than machines. Since 1939, jobs in manufacturing have increased 70%, population 22%.

We repeat...they can't be beat...for any fleet



Safe-Hi "All-Nylon" Auto Seat Belts
Save Lives... Reduce Injuries!

It makes Safety Directors "hopping mad" when they realize that approximately 70% of all auto deaths and injuries last year could have been prevented with Safe-Hi Auto Seat Belts. That's why so many are now installing Safe-Hi Auto Seat Belts in all their company motor vehicles. They recognize these belts as the most practical safety device ever introduced to improve their company safety records.

It's easy to see why Safe-Hi Auto Seat Belts are being installed in more fleets. All-Nylon, they fit any person, any seat, any vehicle. The entire assembly is designed to test in excess of 5,000 lbs. They feature a quick-release, chrome-plated, buckle. Attachment fixtures include extra heavy steel plates for adequate reinforcement of car floor. Neat in appearance and comfortable, SAFE-Hi belts can be quickly installed.

Attaching shoulder straps available with all belts!



NEW METAL TO METAL QUICK RELEASE BUCKLE

See your Safety Dealer

ROSE MANUFACTURING CO.
2700 W. Barbary Place
DENVER, COLORADO

Safe-Hi
DENVER

Greater visibility

Lighter weight

Lower cost

SECUREYE

TRADE MARK

EYESHIELD



- **180° VISION**—No seams or joints. No blind spots.
- **LARGE-AREA PROTECTION**—Rounded and sloped deflector shield of non-shattering Lumarith fits completely around eyes, nose-bridge, upper face, temples. Opaque green visor eliminates overhead glare.
- **PERFECT COMFORT**—Weights only 1½ ounces. Fits comfortably over prescription glasses.
- **EXCLUSIVE SWEATBAND**—Soft, absorbent foam rubber, easily replaceable.

Transparent Clear or Transparent Green.

Pulmosan

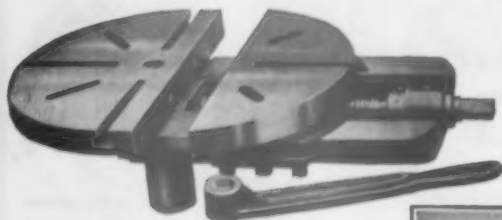
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STOPS
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Ideal for grinding, chipping, sawing, riveting, drilling, etc.

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OFFER**

For Faster, SAFER Work

Combines a drill table, a vise, a set of parallels and V block. No more lost fingers, from hand held jobs that slip. No more 30 minute set-ups for a 1 minute drilling operation. Made in 6 sizes, from 8" to 28" dia. We guarantee each Safety Drill Table will save its cost on labor alone in 6 months, to say nothing of plant down time when vital maintenance is delayed even a few minutes.

WRITE FOR FREE FOLDER

Shows many typical set-ups, and use on radial drills. Complete specifications on all models. Covers MONEY BACK GUARANTEE and 30 DAY FREE TRIAL OFFER.



MODERN MACHINE TOOL CO.

Jackson, Michigan

SURETY SURESEAL INDUSTRIAL GLOVES



**WITHSTAND
THE
ACID TEST
OF
GLOVE
SERVICE**

"The gloves withstood the mixed acid test for the three-minute minimum . . . went on for hours with no apparent effect," reports one Sureseal user.

The same extra-high resistance to practically all industrial chemicals plus Sureseal's 4 times greater snag resistance and 10 times greater abrasion resistance mean multiplied service life . . . big cost savings on most jobs.

For all the facts, write for new Sureseal bulletin.



RUBBER CO.
Carrollton, Ohio

TURN-CUFFS GIVE 2 WAY PROTECTION

Cuffs up . . . liquids can't run down arms or inside gloves. Cuffs down . . . they provide an extra-long protective gauntlet.

In Canada: Safety Supply Co., Toronto

Launch Off-Job Program In Chemical Industry

The chemical industry is pioneering an off-the-job safety program for its more than 760,000 employees. The new program was started in an effort to reduce off-the-job accidents which, according to the National Safety Council figures for 1954, accounted for seven out of nine accidents in the United States at a cost to the economy of almost \$10 billion.

The off-the-job safety program, according to *Chemical News*, official publication of the Manufacturing Chemists' Association, will be conducted under the direction of the General Safety Committee of the Association.

The program is being initiated by the compilation of statistics showing the off-the-job safety situation as it applies to chemical industry employees.

Atomic Energy Exhibit To Be Held in New York

New York's first full-fledged peacetime atomic energy exposition will be held October 20 through November 3, 1955 at the Carnegie Endowment International Center, on United Nations Plaza, 46th Street and First Ave.

Sponsored jointly by the Atomic Industrial Forum, the Fund for Peaceful Atomic Development and the Carnegie Endowment for International Peace, it will be entitled "Man, the Atom, and the Future" and will stress the uses of atomic energy for the advancement of human welfare.

Exhibitors will be drawn from industrial organizations exhibiting in the first U. S. Trade Fair of the Atomic Industry, to be held in Washington, D. C. from September 26 to 30 under the auspices of the Atomic Industrial Forum, and from a group of foreign firms to be invited by the sponsors of the exhibit.

The exhibit will be open to the general public, without charge, from Thursday, October 20 thru Thursday, November 3.

Sad fact—square meals make round people.

Color Makes It Look Larger or Smaller

COLOR CAN DEFINITELY cause increases or decreases in the apparent size of surfaces by at least 13.5 per cent it has been demonstrated in the finding of a research project conducted by the Psychological Laboratory of the Johns Hopkins University Institute for Cooperative Research at Baltimore in collaboration with the Pittsburgh Plate Glass Company.

In the project, people ranging in age from 14 to 55 years were used as observers. They included skilled, unskilled, and clerical workers, university and secondary school students, and housewives. Only observers with normal visual acuity and color vision were used.

The study shows conclusive percentages in size changes based on carefully controlled color comparison tests. "We cannot say," according to the Johns Hopkins psychologists, "that 'red' can make a given surface look larger and 'blue' can make it look smaller.



Do you have the protection of a SAUNDERS' SNAKE BITE KIT? Are you always ready just in case? The SAUNDERS' KIT has the only venom-suction pump with a guarantee... does not have to be lubricated in the field... no glass to break. The only pump with three sizes of adapters... easier to use, less discomfort to patient. Accepted for advertising in publications of A.M.A.

Order from your MSCO distributor today or write for data.



MEDICAL SUPPLY COMPANY
Rockford, Ill., In Canada, It's Safety Supply Co.

We must state which red and which blue we are referring to."

"In general," they reported, "we can say that the longer the wave length of a colored surface, the higher its value, and the greater its chroma, the larger it will appear."

Results of the investigation revealed that hue—the quality that distinguishes one color from another such as red from blue—changes alone can affect at least a 9.5 per cent change in the apparent size of a surface. Brightness or value changes alone can bring about at least an 8.5 per cent change in apparent size while chroma or saturation changes alone can affect apparent size by at least 6 per cent.

A combination of the three basic color dimensions producing an effect in the same direction can cause an increase in apparent size of at least 13.5 per cent.

Comic Book Dramatizes Fire Department

The fire department to most folks is little more than a sound of sirens and the speeding, roaring flash of red as an engine rushes by.

A realistic look behind the scenes into the background, the operations, the men and the equipment of our modern fire departments is provided in a new comic book published by the National Fire Protection Association, Boston.

The 16-page book in full color features *Sparky* the Dalmatian fire dog, famous fire prevention symbol of the NFPA Advertising Council public service advertising campaign.

The oldest and newest fire fighting apparatus is pictured and *Sparky* tells about modern-day firemen's training, their fire fighting techniques and their program to prevent home fires.

Aimed at all age groups, the new *Sparky* Comic Book is available from the NFPA Publications Department for distribution locally by fire departments, industrial and civic interests.

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with comfort in mind!

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*the original
aluminum hat*



and the new
McDONALD

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Tough, but light
in weight—11½
oz. for the T-HAT,
9 oz. for the
T-CAP. Radiating
ribs deflect rather
than absorb blows.
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Please send information and prices on
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FIRM _____
ADDRESS _____
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THE MAN WHO FEELS SAFE
WORKS BETTER

Economy

HI-REACH TELESCOPER

ENGINEERED FOR STRENGTH
STABILITY AND SAFETY



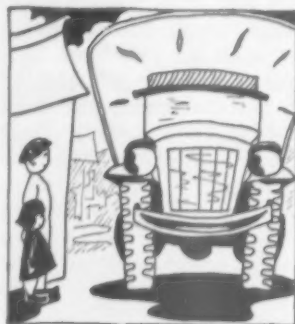
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During the past quarter of a century of making Hi-Reach Platform Telescopes, our engineers have constantly improved the mechanical construction to obtain maximum stability, smooth time-saving lifting action, and safety.

Standard Models available from 10'-9" to 35 ft. high, and custom-built units as high as 100 ft. if you like.

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Air Force Expert at Visual Aids



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TEACHING OUR DRIVERS

호하기위하여 완전한 운전
TO DRIVE SAFELY

운 가르치고 있습니다.
TO PROTECT

당신은 당신의 이해들에게
THE LIVES

다움것을 가르치서 우리의 도움
OF YOUR

이 되게 해주십시오.

CHILDREN. YOU CAN HELP US BY TEACHING YOUR CHILDREN:

1. 길을 건너갈 때에는 반드시 양쪽을 살피것
TO LOOK BOTH WAYS BEFORE CROSSING THE ROAD.

2. 길의 근처나 길에서는 절대로 놀지말것
NEVER TO PLAY OUT, IN, OR CLOSE TO THE ROAD.

3. 큰차가 정지 하는 시에는 차와 멀리 떨어져 있을것
THAT IT TAKES A GREAT DISTANCE TO STOP A LARGE TRUCK.

4. 당신은 당신의 이해들을 운재나 잊지 말고 살피고
REMEMBER YOUR CHILDREN LEARN FROM WATCHING YOU.

가리켜 주십시오. 그래서 이해들을 안전케 하야
SO SET THEM A GOOD EXAMPLE.

항상 주의 합니다.
ALWAYS BE CAREFUL.

RAF-670-6410-6-12-48

Poster used by the Air Force to educate Korean natives about traffic hazards.

DURING the hostilities in Korea a traveler rounding a sharp curve at the top of a rugged mountain would have been greeted by a crude replica of one of America's famous highway signs: "See beautiful Rock City from the top of Lookout Mountain."

Along primitive roads in every war were many monuments to American humor scrawled on makeshift signs. It was no surprise, then, to the U. S. Air Force Safety Officer in Korea to find his sign displaying the National Safety Council's slogan changed to read, "Drive Safely, the Life You Save May be Your Replacement."

Air Force ground safety officers were quick to capitalize on this natural interest, for to this branch of the military a visual aid is any device which can be used to influence human behavior through a visual medium. Soon safety messages were everywhere.

At the exit of a busy compound one safety officer erected a sign informing the airman driver of the cost of each vehicle in the motor pool and reminding him that he might have to pay for his vehicle if he wrecked it through negligence. On a roadway congested with Koreans still living in the ox cart age was this re-

minder: "Korean Pedestrians May be Wrong, but They Don't Deserve the Death Sentence."

Every serviceman in Korea kept a calendar with one date circled in red—rotation day, the day he would return to the United States. This simple verse on Burma Shave type signs posted along a treacherous road made a tremendous impact on GI drivers:

His speed was fast
His reflexes slow
He'll rotate for sure
But he'll never know!

Posters and leaflets were used to good advantage in educating the Korean populace to the hazards of military vehicles. During the summer of 1952, in a small village whose roads were overrun with children, military trucks were killing an average of one person a month. Drivers traveled through the streets at a snail's pace, but the traffic toll kept rising. Some children even ran under the rear wheels of moving vehicles.

The local safety officer summoned Air Force visual aids to the rescue. The village was flooded with leaflets in Korean language appealing to parents to train their children to obey the rules of pedestrian safety. Other visual aids were passed out to native school teachers. Pictures of injured children were displayed with Korean language descriptions of how the accidents happened. With the interest of the entire population aroused no children were killed by military vehicles for many months and Air Force-community relations were greatly enhanced. This led to an all-out traffic safety indoctrination program sparked by visual aids throughout all of South Korea.

Because of its training requirements the Air Force of necessity has long been specialists in visual aids. This medium helped train hundreds of thousands of men during World War II when the Air Force adopted and modified routine ideas from industry.

Visual aids are key elements in communicating and keeping alive Air Force educational and informational programs. Promotional gimmicks include book matches, table napkins, drinking cups, posters, leaflets, films, bill-

**DIRECTS
LIGHT
AS YOU
WANT IT!**

FOSTORIA New 20th Anniversary LOCALITES

**FLEXIBILITY OF A
THOUSAND POSITIONS**



**MODEL
8-CX-705**

\$803

Each
In Std. Pkg. of 4
LIST \$9.45 ea.

WRITE for complete
catalog of Localite
Models for every in-
dustrial use.

NEW Universal Arm Joints—Bend 135°. Large frictional triple disc bearing surface. Smooth, easy movement. Instantly adjustable by hand to direct light exactly as needed.

NEW Collar Disc Joints—Rotate 180°. Combination of 135° bend joints and 180° rotating joints provides amazing articulation for positioning reflector.

NEW Reflector—Bell shape with 6 3/4" orifice. Accommodates 100 watt A-21 lamp. Available with lens.

NEW Base—12" pedestal with adjustable clamp clip to hold arm.

NEW Wiring—Keyless porcelain socket and separate toggle switch. 8 ft. SPT-2 18/2 heavy duty plastic rip cord with molded plug.

NEW Finish—Semi-gloss. Vista Green baked enamel. Reflector interior, high temperature white.



**THE FOSTORIA PRESSED STEEL
CORPORATION, Fostoria, Ohio**
Localites are available through
wholesalers everywhere.



**FINEST
"SEEING
TOOL"
EVER
DESIGNED**

"SANKEY" IMPROVED FOOT GUARD



Equipped with NEW Rubber Strap and NEW Heavy Duty Anti-Skid Rubber Sole

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All types steel sewed and steel reinforced gloves, mitts, hand pads, etc.



① 20 warp ends per inch
② 10 warp ends per inch



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Tough chrome leather. Open back for coolness. Also available steel reinforced. One of many styles of pads.



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Chrome-tanned side-split leather. Steel sewn throughout. Practically rip proof. Thumb patched and strapped for longer wear and greater protection. Any length cuff.

No. 13475 NATION'S NO. 1 WELDER'S GLOVE

Finest grade. Chrome split leather. One piece back, no seams to burn through and rip. Wool heat breaker inside back insulates against heat during entire life of glove. Seams welded for extra strength at all points of greatest wear. Thumb seam full-walled.



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boards, complicated mock-ups, photographs, and pamphlets of all description. Without the interest generated by these visual aids, projects would lose much of their value.

To take full advantage of posters as a promotional tool, the Air Force initiated a research project to evaluate its current poster program, to identify its deficiencies, and to find ways of improving it. The research results were not too encouraging. In general, the posters (1) were unattractive, (2) did not lend themselves specifically to Air Force operations, having been developed by and for industrial activities, (3) were not being displayed strategically or adequately, and (4) did not cover all accident prevention problem areas.

On the basis of these findings the whole program is being revised. New posters have been and are being designed for appeal, content, and impact and will eventually encompass all areas of accident prevention. The problem of poster display has been largely corrected by distributing the research data to all interested activities.

The Air Force also uses visual aids produced and distributed by the National Safety Council, insurance companies, and industrial concerns. Such material is useful because it has been gathered and tested by specialists representing all phases of industrial operations. Although some of it may not be appropriate to all operations it can provide starting points for further development.

Is Your Home a "Poison Storehouse?"

The average home was described as "a storehouse for poison in the guise of household products" in a recent television Report From Rutgers on Station WATV, Newark, N. J.

Dr. Morton J. Rodman, associate professor of pharmacology at the State University College of Pharmacy, in the first of a two-

program series on the dangers of household poisons, declared that thousands of persons are poisoned each year by seemingly harmless items in common home use.

The Rutgers pharmacologist cited U. S. Public Health Service statistics listing at least 400 to 600 deaths to children by accidental poisoning annually. Other less conservative but reliable estimates placed the number of child deaths in this way up to 1000 a year.

In addition, perhaps 100 to 150 times that number are seriously injured annually as a result of taking some drug, cosmetic, cleaning agent or other household item internally, he continued.

Absence of full reporting systems by physicians to health au-

thorities was the reason for the varying figures on children killed by accidental poisoning, Dr. Rodman noted. He dealt with the effects of improper use of aspirin, boric acid, iron tablets, and antihistamines, non-prescription drugs, on children leading to their death. These and other drugs and chemicals "are safe and effective when properly used."

Read the labels of every item containing chemicals, the professor warned. "Parents of young children should place all drugs, medicines, and products which contain chemicals in a locked compartment out of reach of inquisitive youngsters who, in investigating the taste of a 'pretty red capsule,' may be signing their death certificate."

Safety Savings Built This Plane



THIS SNOW-WHITE USAF SCORPION F-89D all-weather interceptor with a green cross on each wing joins the pre-flight line at Northrop's Palmdale facility to symbolize the savings in man-hours achieved by Norcrafters as a result of the company's safety program.

Six months' savings in man-hours through reduction of disabling injuries produced this Scorpion, according to Lee B. Johnson, Northrop safety director. During the 1951-54 period Northrop's average in time lost due to personal injuries was 92 per cent less than the industry average. First aid cases during the past three years have been reduced 50 per cent through advanced accident prevention practices.

As an additional bonus for the safety program, a spot check of group insurance figures shows that safety habits learned at work are reducing accidents in the home. The former ratio of three accidents in the home to one at work is now two to one.

The company has won 19 safety awards since 1945.

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all the way
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SAFETY DIRECTORS like these mobile ladder-trucks because the automatic safety control locks truck—makes it a stable work platform—with 4-way guard rail protection for operator.

OPERATORS like Safe-Lad because all tools and equipment are always handy in the base tray—and they always feel secure and comfortable.

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NEW ORLEANS, HAWTHORNE, CALIF.

A Big Blow

—From page 21

out electricity. Around 3,000 Philadelphia Electric high tension wires were damaged. The company put its 2,500 company employees on the job, but this wasn't enough.

Mutual aid crews were flown into Philadelphia by airplane from Detroit Edison Company. Other electric companies in Pennsylvania, Rhode Island, and Massachusetts sent in line crews by train and truck caravan. To help speed the job, Philadelphia Electric hired 1,000 tree trimming experts and electrical contracting personnel.

Three days after the hurricane hit, Philadelphia Electric had restored service for all but about 19,000 customers in outlying areas.

Other utilities, however, have found that the airplane isn't always the answer to speeding up power restoration. Long Island Lighting Company, for instance, has found that while airplanes are a great time saver in moving crews to damage areas, there are problems in connection with using air transport both within a lighting system, and for bringing in outside crews.

First, according to R. M. Grogan, of Long Island Lighting, there's the matter of weather uncertainties. Frequently when fast transfer of crews is necessary, the weather isn't right for flying. And secondly, an appreciable number of linemen are unwilling to fly.

For moving crews long distances, Long Island Lighting finds rail travel is "usually satisfactory." Truck convoys, such as are used by the telephone companies, also have been found effective in Long Island territory.

Long Island Lighting works its crews 12 hours. Both 16-hour and 12-hour shifts were tried, the company says, but 12 hours "is preferred since efficiency and safety consciousness go down rapidly after 12 hours."

Long Island Lighting has also found that it is highly desirable to give linemen being sent to another electric company's area "some time to make personal arrangements before they leave home."

Narragansett Electric Company, which had considerable experience with outside crews during hurricane Carol, says such crews should be brought in by "a means of transportation which will permit the men to arrive rested and ready for work."

Public Service Gas & Electric Company, of Newark, N.J., goes even further. It thinks that where feasible, crews should be moved into an outside territory by train, preferably by Pullman. "Trucks," it adds, "should be put on the road overnight with transportation department drivers so that the line crews can travel by sleeper and arrive fresh for work."

Use of motels is recommended for sleeping crews in areas where hotel accommodations are not at hand, but the electric companies point out that the motel chosen for line crews should be near restaurant facilities where good food is served. Good food and adequate sleep and rest, are prime factors in preventing accidents while at work.

The incidence of accidents and fatalities among electric company workers during times of stress—such as the period of restoration of service after a hurricane—is less than during periods of normal work, the Edison Electric Institute reports.

"Experience records show that when linemen are engaged in more hazardous work than usual, such as putting blow-down wires back after a storm, an electric company's safety performance is even a little better than usual," says an Institute spokesman. "With the work setting a little more dangerous, everyone on the job is a little more careful."

"It's on a clear, sunny day during ordinary, routine line work that accidents are most likely to happen. It's then that a worker is likely to get careless."

There's an old saying in the electric company business: "There are old linemen and there are careless linemen, but there are no old, careless linemen."

The safety record of the electric companies, however, has been improving sharply recently. Last year there were 120 fatalities among electric power workers employed by power companies who

are members of the Edison Electric Institute, compared with 134 in 1953. The companies that are members of the Institute have about 311,000 workers and distribute more than 90 per cent of all kilowatt hours produced by the industry.

Electric shock or burn was still the major cause of death, although the percentage of total deaths attributed to this cause showed a decline for the first time in many years.

Once a hurricane has hit, most companies start restoration of service by following a plan worked out by trial and error by Southern power companies over the years. The plan, briefly, is:

1. Determine quickly the amount of devastation, estimate the field man-hours, and from them the number of men needed to make the restoration in a predetermined time.
2. Obtain sufficient working field men to meet this deadline and obtain them in the shortest time.
3. Place at the disposal of the men the right equipment without delay.
4. Place at the disposal of the men, sufficient material.
5. Decentralize, establish emergency division sub-control centers, and appoint emergency sub-control supervisors who are capable of handling patrols, directing restoration, and making prompt and accurate reports on the amount of damage and the progress of restoration.

Boston Edison Company, incidentally, is an old hand at restoring service after a hurricane. While the company, like most others in New England, is continuously engaged in battling to maintain service through the perennial pummeling of seasonal Nor' Easters, its hurricane restoration techniques have been improved recently.

E. C. Rue, of Boston Edison, says there have been only six real hurricanes in New England's history.

One strafed the New England states in 1815. Another slammed across them in 1821.

Then after over a century of comparative quiet, hurricanes returned with a vengeance. And in the past 17 years, New England has weathered four whoppers.

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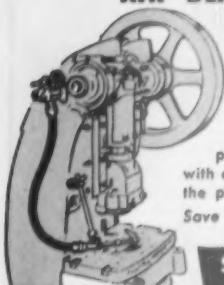
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"Respirators for Industry since 1894"



1938. A second hurricane tore through it in 1944. And the last two came last year—eleven days apart.

Hurricane Carol whistled through on Tuesday, August 31, 1954, and Hurricane Edna on Saturday, September 11.

The nation's third big hurricane of last year—hurricane Hazel, which roared northward over the Eastern states on October 15, moved in a path considerably west of Boston Edison territory.

But out of its experience with past hurricanes, Boston Edison has evolved a major emergency plan. The plan, like a fire extinguisher, is always at hand in Boston Edison offices, ready for use if needed. When a hurricane begins loping toward Boston Edison's territory, this emergency plan goes into action:

1. On first storm reports, selected key employees are detached from regular assignments—hours in advance of the hurricane's arrival—and dispatched to designated emergency locations. This makes it possible to start restoration work as soon as the extent of damage is learned.

2. Mobilized well in advance, too, are experienced line workers and fully equipped trucks from other electric companies and contractors in areas outside the hurricane path. These forces are made ready to move into action the moment it is determined they are needed to assist in the restoration job, and that they are not needed in their own areas.

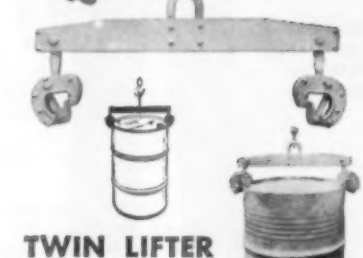
3. Boston Edison's line forces in its own area are amplified by calling in retired workers, trained engineers and technicians from consulting firms, tree experts, and labor crews.

4. Accumulation is begun of critical materials, such as wire, poles, pole line hardware, tree clearing tools, from all available sources within a 1,000-mile radius. Transportation facilities, both passenger and commercial, are expanded.

5. The company's own work centers are expanded. During last year's hurricanes they were increased from seven to 17, and each was headed by an area supervisor with complete authority. This avoids overburdening normal work centers as additional manpower and equipment arrives.

6. Two-man survey crews are organized, instructed and dispatched in advance to stations ready to assess damage when winds subside, and report back promptly to area supervisors. (The company now is considering retaining these survey crews as field assistants to work with line, tree, and top service

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crews in the area surveyed.)

7. As soon as survey reports arrive, priorities are immediately given to damaged circuits on priority lists, such as hospitals, water and sewage pumping, fire, police, and other institutions and agencies on which health and safety of communities depend.

8. Line force employees are organized in two and three-man crews initially. As such, they are assigned to restoring usable lines by switching operations, disconnecting heavily-damaged laterals or spanning wire breaks, and then working in combination with another small crew to restore service for customers with priority listing.

9. A public information specialist is assigned to each normal work center as liaison with local municipal authorities, and to supply specific information to customers about the interruption and when it will be ended. (The company currently is studying the feasibility of assigning a public information specialist to emergency work centers as well as normal work centers.)

10. The engineer at each work center is delegated to receive reports of the progress of restoration work from restoration crew leaders and pass this information on to the local work center where it can be relayed to customers.

Boston Edison this past summer conducted a series of training courses for employees who, during hurricane emergencies will be assigned to work substantially different from what they normally do.

The company has made tentative plans for a "dry run," under which, at a given signal the emergency mobilization of men and materials will be given a practice try.

Electric company executives throughout the East hope their elaborate plans will not have to be used this year. But if the hurricanes come, they are ready for them.

And the average citizen and the electric company employee together are most likely to weather any hurricane in greater safety because of these well-laid emergency plans.

At a Communist meeting one of the comrades asked the speaker:

"What happens to our unemployment checks when we overthrow the government?"

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DIAMOND POINT LADDER SHOES

Distinguished Service —From page 64

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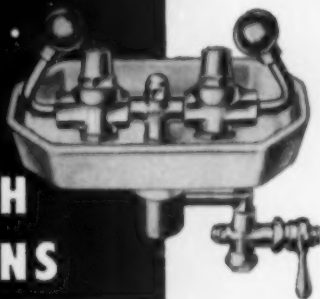
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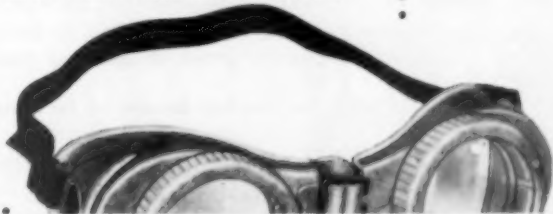
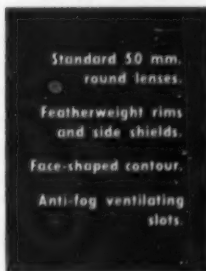
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FREE! Write for Sure-Foot Bulletin 3-2 for complete details.



Frost PAINT & OIL CORPORATION
MINNEAPOLIS 13, MINNESOTA



Southern Pacific Lines in Texas, Entire company.
Standard Oil Co. of California, Two awards: Entire company; Exploration Department.
Standard Oil Co. of Indiana, Refining Department.
Stanolind Oil & Gas Co., Tulsa, Exploration Department.
Sun Oil Co., Philadelphia, Entire company.
The Texas Co., Two awards: Entire company; Ocean & Coastwise Tankers.
Union Oil Co., Los Angeles Refinery.
Union Oil Co. of California, Two awards: Entire company; Refining Department.
Union Pacific Railroad, Omaha, Entire company.
United Gas Corp., Shreveport, Two awards: Entire company; Gas Pipeline Department.
United States Rubber Co., Stark Mill, Hogansville, Ga.
United States Steel Corp., National Tube Division, Ellwood Works, Pittsburgh.
Western Electric Co., Inc., Two awards: Detroit Area of Telephone & Installation Division; Duluth Shops.
West Point Manufacturing Co., Lanett Mill Division, West Point, Ga.

CERTIFICATES OF COMMENDATION

American Can Co., Four awards: Newport Factory (52-A); Northwest CMS (93-CMS); Pacific Division Technical Service; Stockton Factory (110-A).
The Atlantic Refining Co., Natural Gasoline Department.
Brazos Oil & Gas Co., Houston, Entire company.
The Carter Oil Co., Two awards: Natural Gasoline Department; Wholesale & Retail Marketing Department.
Chicago & North Western Railway System, Two awards: Locomotive Shops; Special Agents Department.
Chicago & Eastern Illinois Railroad, Store Department, Danville, Ill.
Continental Can Co., Inc., Bond Crown & Cork Division, Milwaukee.
The Davison Chemical Co., Five awards: Columbus, Ohio; Gretna, La.; Nashville; Perry, Iowa; Savannah.
Deep Rock Oil Co., Wholesale & Retail Marketing Department.
Department of the Interior, Denver, Four awards: Billings Regional Office; Denver Regional Office;

Only PLY-GARB Offers



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- PROTECTION
- COMFORT
- ECONOMY

In Ply-Garb, modern developments in plastic are used to create clothing with amazing protection against industrial hazards. Whether it's oils, resins, solvents, heat or water—there's a Ply-Garb garment to fit the job and protect the wearer.

Made for comfort, Ply-Garb's new plastic weaves are soft, silken in texture and extremely light in weight. They can be tailored for complete freedom of action. Ply-Garb retains its flexible comfort and appearance through repeated washings.

Ply-Garb outwears cotton and wool 10 to 1. Ply-Garb must pass severe tear and strength tests—assures garment life many times beyond the normal wear of ordinary fabrics. This longer wear eliminates frequent and costly replacements.

Available In:

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CLEAR PLASTIC
ALUMINIZED ASBESTOS**

The Standard of Perfection in Protection
Write for Details and Literature

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Salt Lake Regional Office; Washington Office.
Ford Motor Co., Chicago Parts Depot.
General Petroleum Corp., Los Angeles, Natural Gas Department.
General Shoe Corp., Carrollton, Ga.
Standard Oil Co., Salt Lake Refining Co.
Tide Water Associated Oil Co., Exploration Department.
Union Oil Co. of California, Exploration Department.
United States Forest Service, Wenatchee National Forest, Ore.
United States Steel Corp., Oliver Mining Division, Duluth.
University of Akron Government Laboratories, Entire company.

Correction

In the August issue the Distinguished Service columns inadvertently listed the Radio Corporation of America's plant as located at Mooristown, N.J. The correct listing is RCA Moorestown Engineering Plant, Moorestown, N.J.

Grease Is Restaurant Fire Hazard

RESTAURANT OWNERS and employees must be especially careful of all flammable liquids used in and resulting from cooking—greases found on stoves, in deep fat fryers, in exhaust ducts, and exhaust hoods—because these flammable liquids are the principal cause of fires in restaurants.

This is one of the findings in a special fire record study of restaurants, *Fire Record Bulletin FR 55-5*, just published by the National Fire Protection Association.

The study is illustrated and gives paragraph summaries of fire in restaurants of varied size and structure.

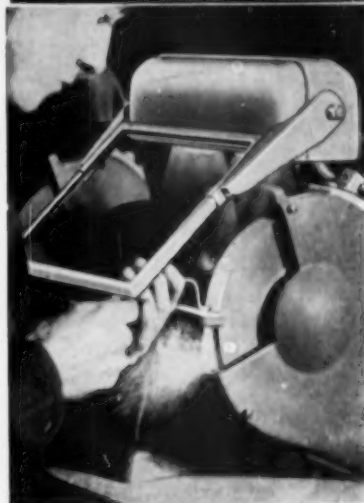
The 12-page report also contains a tabulation of the recurring factors influencing fire-spread in the 62 fires summarized in this record.

Copies may be obtained from the NFPA Publication Department, 60 Batterymarch St., Boston, at 50 cents per copy.

I never pay much attention to criticism after I have drawn what wisdom I can from it.

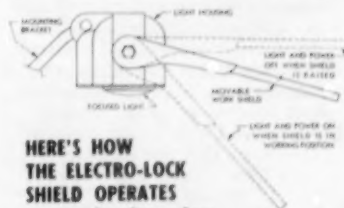
—Norman Vincent Peale

JUNKIN ELECTRO-LOCK SHIELD



The Shield Which Commands Operator Safety

The position of the Junkin Electro-Lock Shield is controlled by mercury switches. Interlocking power and light circuits will not permit the machine to operate unless the shatter-proof shield is in a completely protective position. Affords perfect visibility, and protects the operator from flying particles. Write for free bulletin No. 103.



HERE'S HOW
THE ELECTRO-LOCK
SHIELD OPERATES
—permits clear view
of work, still providing
maximum protection

JUNKIN
SAFETY APPLIANCE CO.
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TORIT UNITIZED DUST CONTROL

*eliminates
dust
at its
source!*



**TORIT
UNITIZED
DUST CONTROL** means each machine has its own custom-tailored dust collector designed to work specifically for that machine. There is no guess work, or average suction. Furthermore, dust control is provided only when that machine is running . . . there is no waste of power such as you have with centralized control when only a few machines are operating. This means better dust control at lesser operating cost and less initial installation cost. Get the facts now on how Torit will work better to . . .
"CLEAR THE AIR".

See our catalog in
Sweet's Machine Tool File, or write:

**TORIT
MANUFACTURING CO.**

291 WALNUT STREET
ST. PAUL 2, MINNESOTA

Axes, Axles and Atoms

—From page 19

the so-called "downtown blight" in cities which is due partially to overflow of population to the suburbs, but mostly to the fact that too many people have to move in and out over streets laid out for horse and buggy traffic and they don't like it. A lot of the congestion is caused by deliveries of the things these people need in their work or of the things they buy.

As long as this traffic must be carried on a single level, temporary relief is all that can be expected. I believe it perfectly feasible to eventually adapt the principle of continuous-flow for deliveries from suburban air, rail, and truck terminals. Such flow could be maintained either below or above street levels. If below, the tunnel would not have to be much larger than those for sewer lines or those for other utilities. If overhead, structures would be light and could be designed to blend well with the architecture of the areas through which they would pass.

There has been considerable talk about conveyor lines paralleling railroad tracks on the railroad rights-of-way and owned by the railroads. This seems to me to be an eminently practical suggestion and one that almost any railroad could well afford to study. Such lines could haul bulk materials, or packaged goods up to a substantial size and weight.

The one technical development sure to come is that of intermediate or booster drives for belt conveyors which would eliminate the present limitations on lengths of single flights imposed by the tensile strength of the belts. When that happens you will see single belts miles in length just as you have seen in the case of trolley conveyors where there is no real limit on the length of chain that can be used in a single conveyor.

Horizontal passenger conveyors have been known since 1893 when a form of slat conveyor first appeared at the Chicago World's Fair. The first vertical passenger conveyor in the form of the man-lift appeared in 1887. A conveyor in the Chicago Museum of Science and Industry has

carried well over two million passengers since it was installed. The first commercial horizontal installation went into operation on May 24, 1954, in Jersey City, with a capacity of 10,800 passengers per hour. It is interesting to note that 9,000 people per day caused pedestrian jams in this same tunnel before the conveyor was installed. The cost of power to the conveyor on this installation is less than the cost of electricity to the overhead lighting system.

The ancient shuttle trains between Grand Central and Times Square in New York will soon join the horse cars in the museum. A shuttle conveyor system will carry about half again as many people hourly and eliminate waiting at the same time.

One manufacturer has installed a passenger conveyor to speed the flow of people into and out of the plant. Many installations have carried passengers for many years in industrial plants where workmen ride beside their particular

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SAFETY DEVICE FOR LADDERS

Prevents death and injuries from falling.

Inexpensive. Easy to install. Clamps to ladder rung or structures with peg steps or frame-work, etc. No welding or cutting.

Automatic. Positive. Will catch workman if he starts to fall even if unconscious.

Simple to operate. No upkeep. Requires no attention from climber.

Notched rail hot dipped galvanized. Entire equipment rust and corrosion proof.

In use throughout country and abroad for approx. 6 years.

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BURBANK, CALIFORNIA

operation as it moves down an assembly line; foundrymen for years have poured castings from moving pouring walks synchronized to the speed of the mold conveyor. Conveyors to move workmen to the job would seem to be economically sound in these days of portal-to-portal pay.

Industry found many years ago that a comparatively small, but continuous flow would deliver astronomical tonnages during a day's run. Industry, commerce and government are just now discovering that the principle of continuous flow can be applied to the movement of people with just as startling results.

One reason fringe parking lots never catch on is the slow and unsatisfactory transportation to downtown stores and offices. I think continuous flow would be accepted by the public, since waiting would be eliminated and such conveyors could be protected from the weather. In some centers they could ascend several floors above the street level and pass right through store buildings and offices,

jumping from one to the other over lightly constructed, decorative bridges.

Commercial applications appear to be literally without end. They include transportation for customers of super-markets to and from their super-parking lots. Soon you can get out of shopping, for your wife won't need you to carry out the sacks of groceries.

Editorial writers have picked up this development. Some view with alarm the thought that this is too much comfort for the American people, although Dr. Brownell of Columbia University says he is in favor of any conveyor which will speed him out to the golf course. They all seem to have missed the main point behind passenger conveyor installations.

The point is simply that they offer a means of ending pedestrian congestion by providing continuous-flow. The comfort angle is secondary although it, too, will be important to a lot of people—those in poor health, the physically handicapped, the plain lazy folk like you and me.

Truly, the only limits of the frontiers of mechanized handling are those of the imagination. The manufacturers of mechanical handling equipment enjoy an enviable position for they present the common denominator that runs continuously through all industry and commerce—materials handling.

New industries will come and old industries will die, but the designer and builder of handling equipment can be assured that he is here to stay as long as this rather shaky modern civilization can endure; that is, if he continues to develop and fit his design to the ever-changing technology of the times.

Materials handling is never an end in itself despite the enthusiastic claims of some of its more outspoken proponents. It is even more important; for most ends sooner or later die, but our means will be adapted to achieve any of an infinite number of ends throughout the future.

This position brings with it a great responsibility to study and to evaluate properly all of the implications that are coming in, almost in geometrical progression,



EMALFON® —SINGER'S Patented* INSULATED GLOVE

A new kind of glove—so different it's patented—ideal on hot jobs that do not exceed 700 degrees. Made with three thicknesses of material: Outer layer of terry cloth, treated to make it flame-resistant; inner layer of all-wool for added insulation; third layer (next to skin) of soft, fleeced cotton. This combination gives flexibility and long wear.

In many cases it has replaced asbestos gloves at a big saving. Fine for extra warm welding jobs.

If not available from your safety equipment dealer, write us for complete information and prices.

NEW CATALOG—just off the press!

*Patent No. 2,459,345

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"Work Gloves That Sing"

THE BERGMAN
Safety-Spanner
a helper you can trust
MADE OF THE TOUGHEST
ALUMINUM-MAGNESIUM ALLOY
WILL NOT
DAMAGE VALVES
MAKE SPARKS
MAKE BURRS
SLIP OFF



TESTED
800 LBS.

3 SIZES
12" - 18"
26 1/2"

*Developed by the man
who uses them daily!*

The Bergman SAFETY-SPANNER CO.
927 BUTLER ST., TOLEDO 5, OHIO



Poison ivy, poison oak and sumac no longer need bother your men when they use MSCO POISON IVY OINTMENT for prevention or cure. Remember, MSCO is headquarters for poison ivy first aid: Unit A-20 Zircreme, 6 per unit; Zircreme (clinical) 1 lb. jars; Unit A-17 Poison Ivy Ointment, 6 per unit; Unit 102A Poison Ivy Wash, 4cc., 6 per unit; Unit 164A Poison Ivy Wash, 10cc., 3 per unit. See your MSCO distributor, or

write for illustrated
poisonous plant
identification
guide.



MEDICAL SUPPLY COMPANY
Rockford, Ill., In Canada, It's Safety Supply Co.

TO STOP THIS



PREVENT THIS



DO THIS
ECONOMICALLY



SEND FOR SAMPLE and
PRICES OF THIS



CANFIELD OIL CO
General Offices:
CLEVELAND 27, OHIO

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Memphis, Tenn., Coraopolis, Pa.

as we trend toward automatic living and automatic working. Our design and our application engineering must be tempered with the realization that the most complicated, the most expensive machines that can ever be built will not have the slightest value in themselves. The sole measure of their value is the degree by which they aid man to a better life.

The real wealth of our many-sided industry lies not in its buildings or in its machines. Our most valuable assets are the experience and imagination of our people and I'm not so sure but what imagination should come first.

Turbans and Hard Hats Don't Mix—or Do They?

Typical of a safety problem which probably would never happen outside of their country was one involving turbans, reported by two safety men from India who attended the June Safety Training Institute at NSC's Chicago headquarters.

Sikh workers are required by their religion to wear turbans—a real problem on a job demanding the use of hard hats. The situation was solved by Hubert Beams, a former member of an NSC training class, who removed the inside bands from the hard hats. Chin straps kept the hats in place over the turbans.

Employees of the safety and fire department of the Standard Vacuum Refining Company in Bombay, S. Jagannathan and D. K. Sirkar are in the United States learning more about safety. Both men are Brahmin Hindus and speak perfect English, but are unable to converse with each other in their native tongues. About 100 different languages are spoken in India, they pointed out. Many of the Council's instructional materials have been translated into Hindi, the state language, which is spoken by most workers.

How does one get into safety work in Bombay? Much as Americans do here. Mr. Sirkar had the ambition of many a young lad to become a fireman. Unlike most boys, he achieved this ambition and rode a shiny red truck. Although this job was interrupted

by a period in the army, it prepared him well for safety work with the oil company.

The road Mr. Jagannathan traveled was like that of many safety men here. A chemistry major in college, he took his first job with General Motors' Bombay plant, where he did electroplating and time and motion studies until the factory closed.

In describing India the visitors used the terms "the old" and "the modern," and "town people" and "village people." In general, town people are more modern than those in the villages. Castes are slowly being abolished by law, and modern Hindus have business and social contacts with all. The older people, the less educated, and those in villages still avoid contact with persons of other castes.

Indian women now enter coeducational schools and become lawyers, engineers, stenographers, etc. In the villages, however, women still accept their inferiority to men.

Industry and Government should combine in the campaign against **DRUNKEN DRIVING**

by adding to your present procedure a simple accident must for determining intoxication.



The Harger Drunkometer, used nationally in industry, is the oldest and most widely used of the breath methods.

Write today for information N-109 and list of successful users.

STEPHENSON CORPORATION
RED BANK NEW JERSEY

Calendar Contest Winners for July



Ab, leve! It's a wonderful thing!
Makes the young and the old want to sing.
But you're strictly off-beat
Pitching woo in the street

First prize in the National Safety Council's Safety Calendar Contest goes this month to Warrick E. Lee, Bell Telephone Co., Carbondale, Pa. The theme in this contest was keep your mind on your job. Mr. Lee's line was adjudged the best of all those submitted. It was:

Tain't private, safe, smart, anything.

Second prize went to Mrs. Roy Burgess, Appalachian Electric Power Co., Roanoke, Va., for this line:

*Where it's ill-placed, and bad taste,
to cling.*

Third prize was awarded to S. J. Di Domenico, U. S. Post Office, Pittsburgh, Pa., for the following line:

*You can "spark" in a park with more
zing.*

Thirty \$5 awards were issued to:

Mrs. Ned Fish, University of Missouri, Columbia, Mo.

John G. Greene, Caterpillar Tractor Co., Peoria, Ill.

Mrs. Roy E. Goodnight, Phelps Dodge Corp., Morenci, Ariz.

Mrs. Earl Boyle, Buckeye Steel Castings Co., Columbus, Ohio.

George A. Larson, Minnesota Department of Highways, St. Paul, Minn.

Max Levin, U. S. Post Office, Milwaukee, Wis.

Gertrude E. Larkin, General Motors, Milwaukee, Wis.

Mrs. Marie C. Thibo, Indianapolis, Ind. (Individual Member).

J. R. Ross, The American Oil Co., West Haven, Conn.

Floyd Snyder, Bethlehem Steel Co., Bethlehem, Pa.

Raymond W. Bursey, Dominion Steel and Coal Corp., Ltd., Wabana, Bell Island, Newfoundland, Canada.

Earl C. Lawson, Lehigh Portland Cement Co., Chicago, Ill.

Ivan L. Herring, Dow Chemical Co., Midland, Mich.

Mrs. Clarence Block, United Steelworkers of America, Spokane, Wash.

Mrs. Barbara B. Constant, Hughes Aircraft Co., Culver City, Calif.

H. G. Hoar, Naval Air Station, San Diego, Calif.

Rose M. Mayorer, Sarasota, Fla. (Individual Member).

Helen Thilenius, Stix, Baer & Fuller, St. Louis, Mo.

T. V. Richardson, Ashland Oil & Refining Co., Oklahoma City, Okla.

Mrs. Rita Rumer, The Pullman Co., St. Louis, Mo.

R. R. Haney, Shell Oil Co., Kilgore, Texas.

Minnie Maze, Crucible Steel Corp. of America, Midland, Pa.

Mildred R. Pitts, The Texas Co., Port Arthur, Texas.

Mrs. Jack Bergin, Napa, Calif. (Individual Member).

Joan Parker, U. S. Navy, Piedmont, Calif.

Mrs. Floyd Sharp, United States Plywood Corp., Seattle, Wash.

Genevieve Holcomb, General Motors, Flint, Mich.

Mrs. Thomas Cooper, Warner Co., Philadelphia, Pa.

Margaret A. Porter, Houston, Pa. (Individual Member).

Mrs. Carl Keys, Sinclair Oil & Gas, Tulsa, Okla.

Father's Contest Entry Makes Twins \$5 Richer

A pair of three-year-old look-alikes in Brookfield, Ohio, are \$5 richer because of their family's interest in the NATIONAL SAFETY NEWS' calendar contest.

When Richard Taiclet won a \$5 prize for his last line to the safety limerick he deposited the check in a bank account for his twin daughters, June and Jean.

Mrs. Taiclet says the entire



family has become interested in the calendar contest and makes a monthly game of seeing who can write the best last line. She sends along a photo of the NEWS' nomination for the most safety-minded twins in the country, but neglected to mention which one is Jean and which one is June.

EYE WASHING FOUNTAIN



SAVE EYES!



Leading industrial doctors advise immediate washing with plenty of running water as the best first aid treatment for any chemical in the eyes. Records prove that washing with water for ten minutes or more, close to the accident, is necessary to reduce or eliminate eye damage.

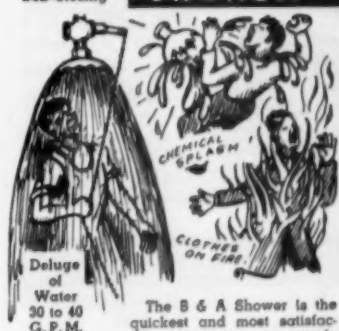
Forehead operation leaves hands free to open eyelids so water can be directed wherever chemicals might be lodged. Sanitary white baked enamel bowl is resistant to most fumes.

Over 500 industrial plant installations have been made to date.

Write For Details.

VALVE
Chain Operated
Quick Action
Self-Closing

NEW
EMERGENCY
SHOWER



The B & A Shower is the quickest and most satisfactory way to saturate a worker with gallons of water the instant an accident occurs, to prevent a disfiguring burn—even a fatality.

Special shower head, no holes to clog—can be used where unfiltered water prevails.

Write For Details.

GLASS SLIVERS
AND CHEMICAL
IN EYES!

DISFIGURING
FACIAL CUTS
AND BURNS!

CUTS AND
CHEMICAL BURNS
ON ARMS
AND BODY

THIS HAPPENS
WHEN
UNPROTECTED
GLASS BOTTLES
ARE DUMPED



5 PINT
1 GALLON
5 GALLON

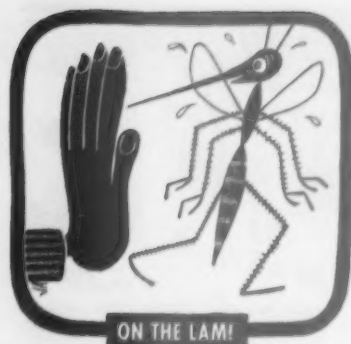
NEW
LOW COST
B & A
SAF-T-BAGS

are widely used for the safe handling of glass bottles containing harmful chemicals; also the storage and recovery of expensive serums, biologicals, and other costly products.

Painful cuts, disfiguring burns, loss of eyesight, or even a fatality, do result from corrosive liquid splash and flying glass when unprotected bottles shatter.

Write For Details.

BENSON & ASSOCIATES, INC.

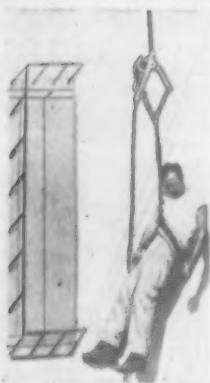


MOSQUITOES, ticks, chiggers, all biting insects have no place to land when your workers use PELLENT. Three types: Ointment for regular use... Cream that won't sweat out, only soap and water will remove... Spray for clothing. PELLENT does not stain... lasts for hours! Unit 204A Ointment (6 1/4 oz.)... \$0.60, Unit 205AA Cream (2 oz. plastic)... \$1.00, No. 320 Pel- lent Spray (5 oz.)... \$1.00. Order from your MSCO distributor today.



MEDICAL SUPPLY COMPANY
Rockford, Ill., In Canada, It's Safety Supply Co.

STOP THAT FALL



Safety Lifeline Lock FOR SCAFFOLDS AND SWINGS

Locks automatically, instantly. Slips onto lifeline rope. Moveable up or down with man. Instant locking position at all times, whether stationary or being moved up or down.

Snap into safety belt. No adjusting. Inexpensive. Over-all length approx. 13". Does not harm rope. Weight: approx. 5 lbs.

Recommended for use on standard 3/4" or 1 1/4" Manila rope.

Send for folder

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BURBANK, CALIFORNIA

COMING EVENTS



In the Field of Safety

Sept. 13-15, Cleveland, Ohio

Seventeenth Annual Ohio State Safety Conference and Exhibit (Hotel Carter). Michael L. Stefani, general manager, Cleveland Safety Council, 2073 East 9th Street, Cleveland 15, Ohio.

Sept. 15-16, Harrisburg, Pa.

Pennsylvania Department of Labor and Industry Annual Industrial Safety Conference (No exhibits). John R. Torquato, secretary, Dept. of Labor and Industry, Harrisburg, Pa.

Sept. 15-16, York Harbor, Me.

Twenty-eighth Annual Maine State Safety Conference (Marshall House). Arthur F. Minchin, secretary, Department of Labor and Industry, State House, Augusta, Me.

Oct. 17-21, Chicago

Forty-third National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

Nov. 2, Fort Worth, Tex.

Eleventh Annual Industrial Institute, cosponsored by the Fort Worth Safety Council and the Fort Worth Chapter, American Society of Safety Engineers (Hotel Texas). L. W. Graff, safety director, Fort Worth Safety Council, Majestic Bldg., Fort Worth 2, Tex.

Nov. 3-4, Charleston, S. C.

Eighteenth Annual South Carolina Accident Prevention Conference (Francis Marion Hotel). J. Donald Watson, Jr., secretary-treasurer, P.O. Box 539, Columbia, S. C.

Nov. 17-18, Cincinnati, Ohio

Fifth Annual Greater Cincinnati Safety Conference (Netherland Plaza Hotel). J. C. Maish, 1718 Union Central Bldg., Cincinnati, Ohio.

Dec. 1-2, Los Angeles

Second West Coast Noise Symposium Institute of Aeronautical Sci-

ences, coordinated by the Greater Los Angeles Chapter, National Safety Council. A. M. Noyes, general chairman, 610 S. Main Street, Los Angeles 14.

Dec. 12-13, New Orleans, La.

Annual Louisiana Safety Conference and Exhibit (Roosevelt Hotel). Charles E. Doerler, secretary, P.O. Box 1148, Shreveport, La.

Jan. 19-20, Milwaukee, Wis.

Wisconsin Council of Safety, Mid-winter Safety Conference and Exposition (Hotel Schroeder). R. W. Gillette, executive secretary-treasurer, Wisconsin Council of Safety, 1 West Wilson Street, Madison 2, Wis.

Mar. 19-21, Los Angeles

Third Annual Southern California Safety Congress and Exhibit (Ambassador Hotel). Joseph M. Kaplan, secretary-manager, Greater Los Angeles Chapter, National Safety Council, 610 S. Main Street, Los Angeles 14.

When an educated person stops studying he soon becomes uneducated.

ATHLETE'S FOOT?

Don't Take Chances!

ALTA-CO

KILLS FUNGI IN LESS THAN A MINUTE!

Low-Cost ALTA-CO POWDER stops Athlete's Foot before it starts. Independent laboratory tests prove ALTA-CO kills all forms of fungi commonly found in Athlete's Foot in less than 60 seconds! Harmless to skin, towels, clothing.

Foot baths in which ALTA-CO is dissolved can quickly, easily be tested for strength.* DOLGE rubber foot tubs available on special service offer with 5-year guarantee.

ALTA-CO FOOT POWDER in handy, sprinkler-top cans gives soothing, quick relief; guards against reinfection.

H.D. FUNGICIDE—Economical floor wash dilutes 1-300 parts of water to kill fungi on shower and locker room floors. Effective also in foot spray equipment.

Write for literature... See your DOLGE Service Man.

*EXCLUSIVE
ALTA-CO TESTER

Eliminates guesswork—helps keep your foot tubs at full strength always.

Dependable
DOLGE

WESTPORT, CONNECTICUT

Green Cross News

—From page 50

schools in their chapter areas. This provides chapters an opportunity to add local recognition to the schools for a job well done.

Safety Pays Dividends

Contra Costa County (Calif.) has obtained tangible results from its accident prevention program for county employees, begun in January, 1953. It recently received a 57 per cent dividend on its Workmen's Compensation insurance for the policy year 1953-1954—a dividend amounting to \$45,743 on a premium of \$80,251! If there are any skeptics who doubt the value of safety in a city government or other public agency, this should be an eye opener!

The Contra Costa County accident prevention program is based largely on educating employees to recognize hazards, and to understand what to do about those they discover, according to

Harold G. Baldwin, Training and Safety Officer for the County. More than 200 employees have been through a six-session safety program. The program includes one training session each month for six months, a system for reporting hazards, check lists for inspecting work areas, and general posters and movies on work safety.

Ohio Attacks Poisoning

With the encouragement and help of the Ohio State Safety Council, the Ohio Federation of Women's Clubs has launched an ambitious program to combat accidental home poisoning.

Dr. Robert H. Kotte, chairman, Safety Committee, Ohio Chapter, American Academy of Pediatricians, was enlisted by the Safety Council to serve as technical advisor on the project, and has prepared a highly effective outline for use by pediatricians who are scheduled to meet with women's groups throughout Ohio.

The outline, together with factual data on accidental poisoning, has been produced in quantity by the Ohio State Safety Council.

President's Conference

The U.S. Department of Labor has announced that the 1956 President's Conference on Occupational Safety will be held in Washington, May 14-16.

The Conference, held biennially, in 1954 stressed the need for organized community programs of accident prevention.

Plan Color Code as Federal Specification

THE GENERAL Services Administration, Federal Supply Service, is planning to adopt American Standard K13.1, *Safety Color Code for Gas Mask Canister Identification*, as a Federal Specification. The code has been officially adopted by several Federal departments for easy identification of canisters and is used as standard by all manufacturers of gas masks in the United States.



Traffic SAFETY MIRROR

- Eliminate traffic accidents at blind corners inside and outside your plant—also at loading platforms.
- Traffic Safety Mirrors are available in convex or flat glass.
- Mirrors are easily installed and adjustable

WRITE FOR FOLDER and PRICES

ROUND CONVEX MIRROR SIZES	FLAT RECTANGLE MIRROR SIZES
13" • 18"	6" x 14"
26" • 36"	14" x 18"

SILVER TROY Company

Mfgs. of Specialty Mirrors for Industrial Use
92 Lock Street Newark 4, N. J.

REMEMBER Johnson Ladder Shoes for Safe Climbing



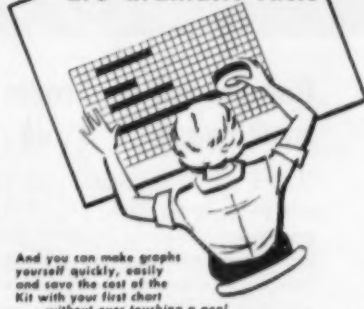
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"We've reduced our scrubbing time from 70 to 7 man-hours ... and our floors have never before been so clean!"

— says Foreman of
BURNY BROS. BAKERY, CHICAGO



Garage and stockroom floors in Burny Bros. large, modern bakery get daily scrubbing with a Job-Fitted Combination Scrubber-Vac and Setol Cleanser

THEY'RE an unbeatable team to speed the cleaning of oily, greasy floors. Here's why: A Scrubber-Vac completely mechanizes scrubbing. It applies the cleanser, scrubs, flushes if required, and damp-dries the floor—all in one operation! Job-fitted to specific needs, a Scrubber-Vac provides the maximum brush coverage consistent with the area and arrangement of the floors. Its teammate, Setol Cleanser, is specially designed for the greater speed of combination-machine-scrubbing ... emulsifies grimy oil and grease instantaneously for fast, thorough removal by the machine's powerful vac. Moreover, Setol retains its strength longer than average alkaline cleansers. This, too, speeds the cleaning process ... saves on materials ... and cuts operating

time of the machine, which in turn reduces labor costs. The Scrubber-Vac shown above is Finnell's 213P, for heavy duty scrubbing of large-area floors. It has a 26-inch brush spread, and is capable of cleaning up to 8,750 sq. ft. per hour! Finnell makes sizes for small, vast, and intermediate operations (available on lease or purchase plan) ... also a full line of fast-acting cleansers. In fact, Finnell makes everything for floor care! Find out what you would save with combination-machine-scrubbing. For demonstration, consultation, or literature, phone or write nearest Finnell Branch or Finnell System, Inc., 2209 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines



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IN ALL
PRINCIPAL
CITIES**

NEW SAFETY EQUIPMENT

Further information on these new products may be obtained by writing direct to the manufacturer or by circling the corresponding item number on the Reader Service Postcard.



In-Plant Fire Trucks

A series of fire trucks has been developed for use as fire-fighting apparatus inside industrial plants. They can be equipped to protect any type of plant, including chemical,



metal working, textile, plastic, woodworking, and many others. The fire trucks combine versatility, speed, maneuverability and efficiency. Each of the four basic models carries at least two major "fire-fighting guns." Model S-100 (illustrated) is equipped with a 300-pound carbon dioxide unit and a 150-pound dry chemical unit and accessory equipment. Model S-100 has a 96" turning radius, a width of 42", a height of 75", and can attain speeds up to 15 miles per hour.

Seco Engineering and Manufacturing, Inc., 1300 W. Fort St., Detroit 26, Mich. (Item 1)

Dividend Stretcher

A stretcher that divides down the center has been developed. It con-



sists of a tubular aluminum frame which suspends a two-part fabric bed. These parts are held together by an interlaced leather center

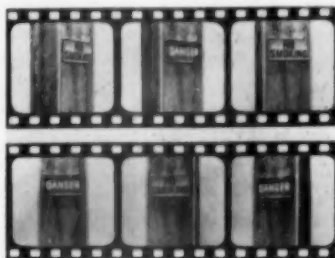
strap. When the strap is removed, each half of the stretcher can be slipped individually from beneath the patient without his being lifted or otherwise physically disturbed. The frame members of this stretcher, called the "Dividend," are fitted with self-locking hinges which not only afford headrest elevation, but are also double-acting to permit compact folding of the unit for space-saving storage. The stretcher weighs 6¾ pounds and is available either in canvas or a washable nylon plastic fabric.

Bay Area Ambulance Service, 746 Laurel Ave., Burlingame, Calif. (Item 2)

Industrial Safety Signs

An animated industrial safety sign has been announced. Called the Vari-View Safety Sign, it automatically changes messages as employees approach, pass, or leave.

No mechanical or electrical devices are needed to complete the animation, and no special lighting



is needed. Animation is accomplished through minute linear lenses which separate the multiple images laminated behind the lenses. A steel frame covers the back and edges of the sign. Three styles are now in production. They are: "Danger—No Smoking," "Safety First—It Pays," and "Caution—Be Careful."

The Irwin-Hodson Co., 439 N.W. 15th Ave., Portland 9, Ore. (Item 3)

Floor Maintenance Machine

A floor maintenance machine with a 16" brush and utilizing dual handles, to eliminate torque, has been

announced. The manufacturer states that the dual handles spread the load and eliminate the effects of torque, making this machine easy to handle on uneven floors and allows its safe use around delicate machinery, glass show cases, and full-length glass doors and windows. The

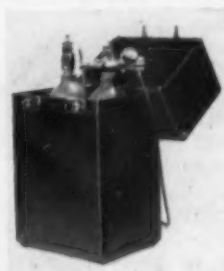


stop-and-start switch is of the safety hand grip type that stops the machine the instant the grip is released. The electric motor is grease-sealed for life and is Underwriter's Laboratory approved. The machine can be used with many quickly interchangeable attachments. It has a 50', 3-conductor cable and steel reinforced rubber bumpers.

Holt Manufacturing Co., 669—20th St., Oakland 12, Calif. (Item 4)

Portable Oxygen Unit

A new light-weight, compact oxy-



gen unit, that the manufacturer claims can be used by anyone in an

emergency to administer oxygen, is now available. Called the "Pocket-Aire," this is a complete unit with two light-weight standard "B" medical oxygen cylinders, a flow regulator with gauge that gives a range of 3 to 7 liter flow of oxygen per minute and two disposable masks. Overall weight of the unit including a carrying case is only 17 pounds. The Pocket-Aire is useful for victims of smoke, drug and gas poisoning, burns, heart attacks, shocks from all causes, heat exhaustion and cardiac asthma, according to the manufacturer.

The Cycle-Flo Co., Milford, Conn. (Item 5)

Aluminum Step Ladder

A new folding aluminum ladder has been designed for industrial use. The ladder features safety corrugated 4" wide steps on both sides, and is made of industrial, high-tensile strength aluminum alloy. It has



corrugated 16" x 8" platform, rubber feet, and folds for easy storage. Each step is permanently riveted to the side rails. The ladder is available in heights from 4' to 14' and weighs from 20 to 73 pounds. The ladder meets the standards set by the ASA and Metal Ladders Association.

Aluminum Ladder Co., Worthington, Pennsylvania. (Item 6)

Polyethylene Bottle Carriers

A bottle carrier fabricated entirely from polyethylene has been announced. These carriers are designed to protect acid or similarly filled glass bottles or carboys from breakage. The carriers have a centering ring which protects the bottle from shock and allows the bottle to be packed with ice or other coolant. The impact capacity of the polyethylene material and the design of the carrier afford protec-



tion to the container. Handles are strongly attached and the top holds the mouth of the inner bottle in a centered position.

American Agile Corp., P. O. Box 168, Bedford, Ohio. (Item 7)

Type Holder

A safety type holder was developed recently for special marking operations in which stamps have to be changed quickly after one or two impressions. To speed type changing, a special thumb screw plunger was developed. This thumb screw can be opened and closed quickly, and the spring tension on the plunger pressing against type inserts holds the type securely in place. The steel holder is resistant to spalling and mushrooming. The holder can be made for practically any size of character or any capacity. The one-piece body construction provides maximum strength.

M. E. Cunningham Co., 1053 Chateau St., Pittsburgh 33, Pa. (Item 8)



Emergency Pumps

Portable pumps, designed for use in fire-fighting, and draining water from excavations, foundations, etc., have been announced. Model GP2, (illustrated), starts working as soon as its suction hose is placed in a water tank, trough, pool, or any other source of water supply, even though the pump case is only partially filled. According to the manufacturer it is non-clogging, self-cleaning, and can pump 4,800 gallons



per hour against a 15-foot head, through 25 feet of hose with a 90-foot stream. Additional lengths of hose can be clamped together quickly. This pump, especially suitable for fighting fires, has an all-weather ignition and automatic rewind starter.

For draining flooded basements and excavations, Model PSP-602 pneumatic sump pump is available.

This pump can be submerged completely in water without impairing its effectiveness. It has a capacity of 15,000 gallons per hour at 90 pounds psi and the discharge hose is 12 feet long. The pump develops water pressure for a 140' static head. Both Model GP2 and PSP-602 start pumping immediately upon contacting water, and are standard 1½" pipe thread connections.

Mall Tool Co., 7725 South Chicago Ave., Chicago 19. (Item 9)

Plastic Coated Wire Rope

A new plastic coated cable called "Plasteel" is now available. It is available in sizes 1/16" by 1/8" to 1/4" by 3/8", inclusive, in transparent green or opaque white. Strengths are from 480 pounds to 7,000 pounds.

This cable is either a preformed galvanized steel or stainless steel wire rope, coated with a strong tough flexible plastic. The flexibility of the rope is not adversely affected by the plastic coating. It resists sunlight and oxidation and provides resistance to most acids, bases, salts, oils, and greases, except hydro-fluoric acid and methyl ethyl ketone.

MacWhyte Co., Kenosha, Wis. (Item 10)

Aluminized Fire Suit

A new aluminized fire suit designed to offer adequate protection for fire rescue workers incorporates an air respirator which enables the worker to breathe

for extended periods of time while inside the suit. Made from aluminized tropic-weight asbestos fabric which reflects up to 90% of the heat generated in the fire, the suit has a lining of neoprene coated fiber glass for additional resistance to heat, abrasion, water, oil, grease, and acids. A hard hat is built in to protect the wearer from head blows. A pyrex vision piece in the helmet is replaceable and is ventilated to prevent fogging. Suits are sized to fit the average height range. A self-contained breathing unit provides enough air for approximately 15 minutes work at extreme exertion. According to the manufacturer, the unit will operate successfully in temperatures as low as -20 F and offers protection against gas, smoke, dust, or fumes.



Wheeler Protective Apparel, Inc., 224 W. Huron St., Chicago 10. (Item 11)

Protective Skin Coat

A new siliconized formula that, according to the manufacturer, gives double the effectiveness is now available. The product, called Go-Jo Protective Skin Coat, will reduce



the job and production time loss caused by industrial dermatitis. The skin-coat forms a protective barrier to prevent infectious ingredients from penetrating the pores of the skin that retains hard-to-remove ingredients on the surface and stops skin penetration of grime, paint, inks, carbons, adhesives, detergents, etc.

Gojer, Inc., 144 Cuyahoga St., Akron, O. (Item 12)

Journal Box Lubricator

The development of a sponge rubber lubricator designed to end the perennial journal hot box problem has been announced. The lubricator forms a sealed oil reservoir at the bottom of the journal box, and pumps, squeezes, and wick-feeds



filtered oil into a felt pad that is in constant contact with the rotating journal. It is easily installed in the journal box and prevents the loss of oil by leakage or splashing without the use of oil seals or special types of dust guards. No welding, drilling, or machining of the journal box is necessary. According to the manufacturer, this lubricator considerably reduces journal bearing temperatures. The device has been approved by the Association of American Railroads for limited installation on cars used in general interchange service.

It may be installed without limit on cars kept in service only on the owners' line. Although it is necessary to jack the journal box and remove the journal bearing and wedge to apply the device, actual insertion requires less than two

minutes. The device eliminates waste packing and provides a constant three-way oil delivery to the journal by capillary action, pumping action, and sponge pad flexing. An enclosed oil reservoir holding two pints of oil is formed at the bottom of the journal box by the lubricator.

United States Rubber Co., Rockefeller Center, New York 20. (Item 13)

Industrial Aprons

A new line of special industrial rubber aprons has been announced. Designed for the food, dairy, bakery, chemical and metal working industries, the aprons are available in a wide variety of sizes and in several materials and colors. White or black aprons are made of double-coated 18-gauge neoprene, and are resistant to abrasion, oil, grease, and acid. Heavier aprons of 28-gauge and 32-gauge neoprene, in maroon or black are also available. All the aprons have large grommets and washers at top and sides and can be obtained with double needle stitching, vulcanized seams, or with raw edges, as required. Also available are a series of inexpensive, single-coated rubber covered fabric aprons, with sewed tie strings, for use for conditions less critical.

Whitewater Raincoat Co., Industrial Division, Whitewater, Wis. (Item 14)

Combustion Safeguard

A combustion safeguard system utilizing a lead sulphide photo-conducting cell responsive to infra-red as a detection element has been developed. Incorporating a plug-in type chassis, the design is such that accessibility is available for adjustment, examination, and repair. The "1400" and "1500" Series include a safety type terminal strip, convenient checking strips, and the use of standard electronic tubes.



The "1400" Series "CR" system operates on the "flame rectification principle." It takes advantage of the fact that flame is able to conduct a small quantity of electrical current and that the flow of electrons in the direction of the flame is greater than "upstream." In gas firing, the flame is the medium for both conduction and rectification. It is a link between the grounded burner nozzle and a conventional flame-rod "pick-up." In the case of oil flame detection, an emissive type

photo-cell activated by flame luminosity provides the "flame-on" link.

The lead sulphide photo-conductive cell which is used as the flame "pick-up" of the "1500" Series "IR" (infra-red) system is predominately sensitive to infra-red energy. Basic circuit design is such that the "1500" Series requires fluctuating current of a flame frequency for relay response.

Barber-Colman Co., Wheelco Instruments Division, Rockford, Ill. (Item 15)

Roll-about Fan

A new 20-inch deep-pitched propeller fan that moves free air at the rate of 3,950 cubic feet per minute has been announced. The fan can be used both as an intake and as an exhaust. The "roll-about fan" is portable and is useful in industrial plants, shops, stores, laundries, etc.



Precision Equipment Co., 3714 North Milwaukee Ave., Chicago 41. (Item 16)

Step Ladder

A new development in step ladder safety has been announced. According to the manufacturer, this ladder supports the user more solidly the higher he goes, by means of a rugged linkage that spreads the ladder brace legs sideways as well as forward. It is said that this double motion doubles the base area on which the ladder stands and eliminates sideway, making the ladder very difficult to tip over. The ladder can be used on soft or uneven ground, will stand conveniently close to walls and corners, and is easily transported and stored.

Triple-H Corp., 46 Ravenna St., Hudson, Ohio. (Item 17)

Non-Sparking Wrench

A new line of forged copper safety wrenches has been announced. These open-end wrenches are intended for use in hazardous locations where accidental sparks might



result in fire or explosion. Compared to cast wrenches, the forged wrenches are slimmer and stronger. Section thickness, as well as torque

values, are on a par with high grade steel tools. Lighter in weight than cast wrenches, the tool is useful in close-quarter work and the strength of the forged wrench is expected to extend the service life of the tool. The wrenches are available in various sizes.

The Beryllium Corp., Reading, Pa. (Item 18)

Sound Level Meter

Model 410-C sound level meter features a separate output stage for driving sound analyzers, peak noise indicators, graphic level recorders, and other accessory equipment. This



eliminates switching off the indicating meter movement to avoid introducing distortion caused by the rectifying action of the indicating meter. The portable meter is used for accurately measuring noise, sound, and vibrations from equipment such as blowers, ventilating fans, aircraft, industrial hygiene studies, and acoustical surveys. The instrument meets specifications of the American Standards Association for Sound Level Meters and exceeds the ASA reference level. It is available with accessories, including vibration measuring equipment, acoustical calibrator, and peak noise indicator.

Herman Hoerner Scott, Inc., 385 Putnam Ave., Cambridge 39, Mass. (Item 19)

Warning Signal

A warning signal for use on many kinds of moving equipment, including emergency vehicles, diesel switcher locomotives, cabooses, cranes, and shop trucks is announced. The device may also be



used to mark the location of hazardous areas where workmen may be hidden from the view of moving equipment drivers or operators. The

beam of the sealed beam lamp is reflected at right angles by the dual inclined plane reflector which revolves at 48 rpm and which projects 96 flashes per minute in a horizontal plane. The reflector is mounted directly to the geared motor shaft which requires a minimum of maintenance because all moving parts are limited to the motor components. A three-wire terminal block is provided in the base of the signal for motor and lamp leads. A red enclosing glass cylinder is furnished when this color is specified. Other cylinders have a clear glass cylinder and a color roundel between the lamp and the reflector.

Pyle-National Co., 1334 North Kostner Ave., Chicago 51. (Item 20)

Battery-operated Lift

A 12-volt battery-operated hydraulic lift has been designed for use where a low-cost in-between handling lift is necessary. It has a maximum lifting speed of 40 feet per minute and a load capacity of 1,000 pounds and will raise loads to 56". This lift is useful for such operations as transferring dies; tailgate



loading and unloading; stacking drums, crates, etc.; movement of materials through narrow aisles; loading and unloading freight cars, and generally serving as a convenient "handyman" for almost any lifting operation.

Big Joe Manufacturing Co., 90 West Jackson Blvd., Chicago. (Item 21)

Fire Extinguisher Tubing

A new fire extinguisher tubing has been announced for use by manufacturers of fire extinguishers and large industrial plants with large numbers of first-aid fire extinguishers of the water, soda-acid, and foam types. The hose meets Underwriters' Laboratory specifications of 400 psi for five minutes and is available in black or red, 3/8" ID, 1 1/16" OD with one braid of reinforcement. The hose weighs 14 pounds per 100 feet and is packaged in links cut to specifications.

Thermoid Company, Trenton, N. J. (Item 22)

Automatic Air Filter

A fully automatic air filter is now available. The unit weighs 28 ounces and is equipped with an automatic discharge which eliminates hand draining. The manufacturer says it prevents water, grit, scale, and sludge from entering tires and air-operated tools and equipment and



guarantees clean, dry air. The filter operates by the differences in pressures caused by the flow of air through the several chambers in the unit. As air flows through the unit, water and foreign substances collect in the main filter chamber. Upon stoppage of the air flow the full line pressure pushes all collected water and foreign substances through the opening at the bottom of the separator. The recommended capacity in cubic feet per minute is 100 pounds pressure, but the filter will function efficiently on air pressures from 20 pounds to 175 pounds.

Engman Manufacturing Co., 1317 - 19 Locust, Des Moines, Ia. (Item 23)

Abrasive Cutting-Off Wheel

An abrasive cutting-off wheel utilizing fiber glass fabric as a reinforcement has been announced. The wheels operate at up to 16,000 surface feet per minute. It is said that these wheels have a higher bursting speed than un-reinforced wheels or wheels reinforced with other man-made textile fibers. The wheels are available in standard thicknesses of 1/8 to 3/8 inches, in diameters of 2 to 20 inches, and are used in foundries



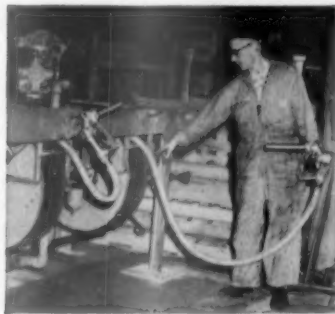
for roughing-off fins and sharp edges, notching and cutting off gates and risers, and removing burned sand and cleaning castings. In steel mills, metal fabrication plants, weld

shops, shipyards, railroad shops, and automotive plants, the new wheels are used extensively for weld preparation and weld removal, and general purpose roughing and surface grinding.

The Carborundum Co., Niagara Falls, N. Y. (Item 24)

Hose Reel

A hose reel that can be installed "out of the way" has been developed. Available for hose up to three inches in diameter and in models with air or explosion-proof electric



motor or hand crank rewind, this reel can be mounted on cabinets, walls, or girders near work areas. The starting button on electric models can be placed anywhere that is convenient, while levers on air motor models and cranks on hand crank models are within reach of the operator. An angle iron frame, which anchors the reel on the cabinet or against wall or girder, is designed and constructed to insure permanency and safety in this type installation. Rolled edges on discs and a full drum protect hoses from scuffing and cutting.

Clifford B. Hannay and Son, Inc., 737 Main St., Westerlo, N. Y. (Item 25)

Fire-Fighting Trailer

A self-contained fire-fighting trailer has been recently placed on the market. The steel body carries 360 gallons of water and the low center of gravity makes overturning very improbable. The top, sides and fenders are made of steel floor plate. Mounted on top of the trailer body are a high-volume, high-pressure



pump, hose reel, 100 feet of 1" high pressure hose, 150-pound dry chemical tank with 50 feet of hose, 30-pound hand extinguisher, valves,

and all controls. The valve and piping arrangement is such that in addition to pumping water from the trailer tank, water can be picked up from a pond, reservoir, or other source.

The pump will throw a stream 100 feet from a 1" hose at 80 pounds pressure. The dry chemical tank is pivot mounted so that it can be raised to an upright position and latched in place for refilling. The trailer is equipped with electric brakes, rear and side lights, and a quick latching safety hitch and steel plate fenders.

Henry H. Paris, Distributor, Inc., Houston, Tex. (Item 26)

Polyethylene Liquid Dispenser

A polyethylene liquid dispenser allowing controlled flow of liquids through various available spout and nozzle attachments, from a single drop to a steady stream or spray, is available. A brush attachment allows liquids to flow through the bristles in a continuous stream. The dispenser can efficiently handle oils, solvents, cleaning solutions, adhesives, acids, alkalides, etc. Contents



will not spill if the dispenser is tipped or dropped, since continual pressure must be applied in the container to induce flow. Other features of these dispensers are: no damage to moving machine parts if the dispenser gets caught; flexible tube allows directional control of stream; and by releasing pressure on the bottle the unit may be used as suction syringe to withdraw excess liquid.

Aids Development Co., Inc., 16560 Elderdale Rd., Cleveland 30, Ohio. (Item 27)

Aluminum Swing Stages

Aluminum swing stages and scaffold planks with a rated and tested load carrying capacity are now available. Standards established by the manufacturer to determine the capacity of this type of product are simple to use. Total load carrying capacity is determined by use of a safety factor or form multiplied by the safe working load. Each 1,200-pound capacity unit will carry a safe center concentration load of 300 pounds. The 1,600-pound capacity is rated on a 400-pound center load

with a same factor of safety. The scientific redesigned shape of the side rail allows this load carrying ability. The overall weight is kept low by use of a special "C" shaped channel decking with a knurled surface and longitudinal ridges. Decking is suspended over the rungs. Links of 24 feet are attained without trussing.

Louisville Ladder Co., 1101 West Oak St., Louisville 10, Kentucky. (Item 28)

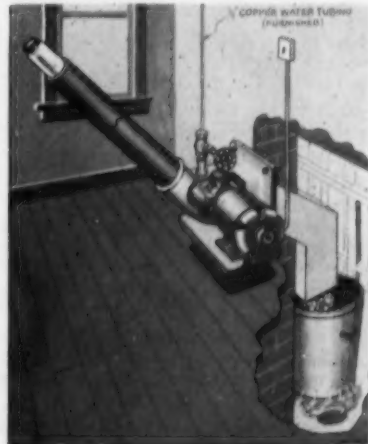
Plastic Floor Finish

A colorless liquid plastic floor finish, easy to apply and with non-skid characteristics has been announced. The product can be applied with a mop or applicator, dries in 20 minutes, and is claimed to wear three to five times longer than wax. It is recommended for use over asphalt and rubber tile, linoleum, cork, and other types of flooring. Because it resists the wearing effects of industrial dirt, it is especially useful in factory offices. It is non-combustible and non-flammable.

The Monroe Co., Inc., 10703 Quebec Ave., Cleveland 6, Ohio. (Item 29)

Lamp Disposal Unit

A disposal unit for fluorescent lamps and incandescent lamps is available. Called the Flur-o-lamp disposal unit, Model FL-800 is designed for permanent installation and has an exhaust flow to carry away dust and fumes. The standard unit is equipped with a 1/4 horsepower, 60 cycle, 115 volt motor, with a built-in automatic protective device, starting switch with necessary



cable and connectors, outlet in box

for exhaust fan motor, exhaust fan with aluminum intake and outlet fittings with aluminum tubing and feeder tubing in convenient sections, galvanized, painted waste duct. It is adjustable for varied wall thickness. Installation is made by cutting a hole in the wall for the waste duct and a hole for the exhaust blower. The unit is bolted to the wall and floor and wiring connections are installed.

Laduby Co., Inc., Branford, Conn. (Item 30)

Sprinkler Supervisory System

A new line of automatic sprinkler supervisory systems using automatic auxiliary and proprietary type control panels has been announced. Underwriters' Laboratory and Factory Mutual approved, these systems are designed to give supervision of component parts of standard sprinkler systems and to provide rapid notification of abnormal conditions at protected property. Signals are carried simultaneously to the remote station receiving panel. The automatic coding and recording of such conditions by date and exact hour and minute is a feature of the system, and allows keeping permanent records.

Notifier Manufacturing Co., 239 South 11th St., Lincoln, Nebr. (Item 31)

Waste Receptacle

A new waste receptacle called the "Jet," features a dome top of stainless steel which swings freely inside the outer shell in any direction, thus making waste disposal possible from any point or approach. The unit can be placed against a wall or in a corner where space is limited and permits fast waste disposal. It is especially suitable for placement in corridors, entry-ways, waiting rooms, sales floors, industrial plants, and near drinking fountains for used paper cups.



Solar-Sturges Manufacturing Co., Division of U. S. Industries, Inc., Melrose Park, Ill. (Item 32)

Display Safety Signs

Changeable copy, safety sign panels have been announced. The panels can be erected for the mounting of 8-inch red plastic letters which form the copy. Background panels are 30 feet long. Messages can be changed at regular intervals by use of a

mechanical hand, while the worker is on the ground. The letters mount directly on flanges in the sign background which is finished in baked enamel. Promotional material is available.

Wagner Sign Service, Inc., 356 S. Hoyne Ave., Chicago 12, Ill. (Item 33)

Welded Steel-Wool Pad

A steel-wool pad that is said to be very durable because of its welded construction is available. This type of construction allows the pad to wear evenly, and prevents shred-



ding and bunching. The pad is available for varied steel-wool jobs, including floor polishing, dry cleaning, refinishing, etc. The pad comes in four grades: No. 0, fine; No. 1, average; No. 2, coarse; No. 3, very coarse. Each of these grades is supplied in a full range of sizes. The pad is self-adjusting and can be used on any fiber brush with any disc-type machine.

Finnell System, Inc., 2200 East St., Elkhart, Ind. (Item 34)

News Items

The Safety Tool Department of Ampco Metal, Inc., Milwaukee, has announced the appointment of two class "A" distributors. The Giller Tool Supply Co., Inc., Dallas, Tex., and the Mississippi Foundry and Machine Co., Inc., Jackson, Miss., are the new distributors. Both companies will handle regularly stocked Ampco safety tools. They will also handle special tools when required.

* * *

William R. McMillen has been appointed regional sales manager for the Breuer Electric Manufacturing



Co. in the Southeastern states. Mr. McMillen has been in charge of sales

for several lines of maintenance equipment in this area for the past 10 years. He has also served as a procurement representative for Lockheed Aircraft. His headquarters will be in Atlanta.

The Chemical Corp., manufacturers of protective hand creams and powdered hand soaps, announced the appointment of Canwest Safety Service Supply, Ltd., Calgary, Alberta, Canada, as distributors in the western provinces of Manitoba, Saskatchewan, Alberta, British Columbia, and the Northwest Territory.

* * *

John F. Kidde, president of Walter Kidde and Co., Inc., has announced an expansion program which has created five divisions. The divisions will be Aviation Division; Industrial and Marine Division; Engineering and Research Division; Textile Machinery Division, and the International Division, which will handle products destined for overseas consumption. Four vice presidents were named to help in the management of the new organiza-



tion. The vice presidents and their divisions are: Aviation Division—V. J. Hill, Jr.; Industrial and Marine Division—P. W. Eberhardt (shown); Engineering and Research Division—D. Mapes; International Division—Arthur M. Doxsey. Mr. Mapes will also be general manager of the Textile Machinery Division.

Mr. Roy L. deBrauwere, assistant vice president of the Scoville Manufacturing Co. and assistant general



manager of the Schroeder Division of Scoville Manufacturing Co., died June 18th. Mr. deBrauwere started with the Company over 40 years ago and has served in various executive capacities, including purchasing, traffic, advertising, and sales.

TRADE PUBLICATIONS

These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.



1. Watchclock System: Circular gives full details on how the Watchman's Clock works; how a Watchclock System watches the watchman and thereby reduces insurance rates for the user. Chicago Watchclock Division.

2. Spark-Resistant Paving Breaker Tools: Bulletin 4127-A describes and illustrates spark-resistant paving breaker tools that are forged of a special high-strength beryllium copper alloy. Some of the items shown are:moil points, narrow chisel bits, 3" chisel bits, 3" x 12" digging chisel, 5" asphalt cutters, etc. Ingersoll-Rand.

3. Audiometer: Bulletin tells how audiometer enables plants to conduct their own hearing tests. The portable Beltone instrument is easy to operate, weighs only 14 lbs., maker says. May be used to test individuals or groups of up to 40 simultaneously. Beltone Hearing Aid Co.

4. Floor Maintenance: Illustrated 4-page folder describes products designed to aid effective floor care. Lists combination, scrubber-vac machines, conventional scrubbing-polishing machines, steel-wool pads, applicators, vacuum cleaners, mop trucks and other mopping equipment, and a carry-all for transporting cleaning supplies and equipment. The folder also lists waxes, sealers, and cleaners, and gives recommendations for use and packaging information. Finnell System, Inc.

5. Protective Apparel: Catalog illustrates a complete line of safety apparel. Shown are: clothing, sleeves, blankets and curtains, leggings, spats, arm protectors, aprons, asbestos and leather gloves, asbestos firemen, etc. Wheeler Protective Apparel, Inc.

6. Safety Equipment and Products for Construction Maintenance: Catalog displays complete line of line-man's equipment, including belts, "climbers" accessories, clothing and tools. Also featured are safety tools for electricians and tree surgeons. R. H. Buhrke Co.

7. Dust Collectors: Complete line of dust collectors described in 16-page catalog. Cabinet and cyclone type collectors, blowers, exhausters, and accessory equipment shown. Many illustrations, sketches and specification charts, as well as a guide to the selection of equipment included. Torit Mfg. Co.

8. Water Coolers: Catalog describes and pictures various types of water coolers such as pressure coolers, bottle-type coolers, explosion proof coolers, cafeteria and restaurant coolers and heavy duty industrial coolers. Halsey W. Taylor Co.

9. Barrier Cream: Booklet discusses barrier cream to protect workers from contact dermatitis due to primary irritants (acids, alkalis, solvent, oil) and sensitizing agents (nickel, rubber, chromates, poison ivy). Gives list of many irritants and the type of cream recommended. Ayerst Laboratories.

10. "Noise Simplified": This new booklet contains detailed information on noise measurement and control. The first section examines the relation of noise to hearing. Dangerous noise levels and their effect on hearing are discussed. Techniques of noise measurement including microphone placement correction for background noise and correction for directional effects are also covered. The second section discusses methods for reducing and controlling noise. The final section gives full

technical data on modern sound measurement equipment. Hermon Hosmer Scott, Inc.

11. "Truth About Waterless Hand Cleaners": The use of waterless hand cleaners to protect hands against chemicals causing dread dermatitis is the subject of this 4-page bulletin. The softening and deodorizing qualities of the hand cleaner are also discussed. Milburn Co.

12. Electric Dryers: Brochure describes floor and wall model hand and hair dryers. Points out how equipment reduces washroom maintenance by eliminating need for paper towels. Dryers have an automatic shut-off feature. Also shown are electric dryers for boots, goggles, gloves and other industrial uses. Chicago Hardware Foundry Co.

13. Grinders with Built in Dust Collectors: Bulletin illustrates grinding, polishing, buffing, deburring, and dust collecting machinery, either bench or floor models, with or without built in dust collectors. Hammond Machinery Builders, Inc.

14. Fire Protection Equipment: 10-page bulletin fully describes and illustrates the invincible nozzle, the long pile nozzle — the "Freeman" deluge set portable, tower and ladder pipe nozzles, roof, smoke stack and cellar nozzles, Morse shut-off nozzles and playpipes, high pressure shut-offs and gates. Siamese connections and hydrant gates. F. N. McIntire Brass Works.

15. Guide Pin Cover: Brochure describes and gives specifications on covers for guide pins for die sets to protect operator and guide pin. Available in covers for gap only or for entire pin and gap. Wiesman Mfg. Co.

16. Abrasive Floor Coating: Bulletin tells of a non-slip abrasive floor-coating in an easy-to-apply paint form in gray, red, black and green. Slip-proof, economical and long-lasting, it is adaptable to all industrial use. Frost Paint & Oil Corp.

17. Punch Press Feeds: Folder gives specifications for roll and dial feeds for all makes of punch presses and straightening machines. In addition, automatic centering reels, conveyor type coil cradles, air-blast valves and mechanical pickers are described and illustrated. F. J. Littell Machine Co.

18. Non-Skid Gratings and Treads: Catalog describes an open-mesh grating with serrated edges to give a non-slip footing for ramps, stair treads and general walkways. The catalog shows various styles available, gives recommended uses. Selection chart, capacities, weights and deflections also shown. Globe Co.

19. "The Care and Maintenance of Concrete Floors": This 12-page booklet describes the basic concrete floor, and illustrates some of the more common faults due to improper construction or improper maintenance. The terms "dusting" and "blooming" are explained and means for overcoming these problems are indicated. Cleaning, finishing, and daily maintenance tips for concrete flooring are included. National Sanitary Supply Asso.

20. Mobile Ladder-Truck: A picture story of a new mobile ladder-truck shows how to cut maintenance costs by as much as 50%. Specifications given. Safe-Lad Mfg. Co.

21. Detonator-Safe Initiators: Primarily for application to guided-missile problems, two units which serve the purpose of inserting a firing-safety function between electrical primers and a primacord firing train, are described in a new leaflet, Form DS 1-555. The units listed are illustrated and described—the Model 173-1 being a lanyard-armed, electrically-fired initiator, while the Model 1-175-1 is an electrically armed, electrically-fired telemetered initiator. Beckman & Whitely, Inc.

22. Color Blindness Test: A simple, inexpensive test now makes it possible to determine quickly if a person has a color vision deficiency and, if so, what type and how serious it is. Bulletin gives full details. American Optical Co.

23. Magnetic Ideas: 24 page booklet lists over 150 installations of

magnetic separators. Tells how they increase production, prevented fires and explosions, reduce machinery damage, assured product purity, conveyed and controlled metal. Eriez Mfg. Co.

24. Eye Guards: Illustrated literature describes eye guards with one-piece replaceable lens of impact-resistant acetate. How these "Welsh Guards" protect workers' eyes from chemicals, dust and other foreign particles is covered. Welsh Mfg. Co.

25. Remove Ink Stains: A 2-color bulletin fully describes and illustrates "Phlo Hecto-Cream" a product designed specifically to remove transfer ink stains. Application instructions included. Chemical Corp.

26. Hose Reels: A 16-page catalog illustrates hose reels for fire fighting equipment. The Hannay Space-saving elevated motor reel which gives equipment designers greater flexibility in positioning fire hose reels is fully described. Clifford B. Hannay & Son, Inc.

27. Oil and Grease Absorbent: Literature describes "Hi-Dri", an absorbent that absorbs solvents, water, acids, paints, resins, syrups, waxes, inks, etc. Equally effective on wood, concrete, brick, steel and all other types of flooring. Completely eliminates slippery surfaces, is completely fire-proof. Waverly Petroleum Products Co.

28. Folding Emergency Stretcher: Bulletin features stretcher especially designed for first aid and emergency uses; is light, durable and folds compactly. Complete specifications included. Washington Products Co.

29. Protective Equipment: 32-page catalog lists various types of safety equipment for making jobs in your company safer. Items shown include pliers, painters' chairs, gloves, boots and various types of safety belts. Miller Equipment Co.

30. Rain Suits: Rain suits specially designed for line crews and featuring non-conductive fastenings are described in a catalog sheet. A patch of the Neoprene latex coated in safety yellow used as the fabric in these suits is attached. H. M. Sawyer & Son Co.

31. Safety Shoes: Folder illustrates 9 different styles of safety shoes, their special features and prices. The shoes with built-in cushion to reduce fatigue and lessen the possibility of accidents are presented. Holland-Racine Shoes, Inc.

32. Leather Preserver: Literature gives full details on a silicone water repellant and leather preserver that makes work shoes impervious to water, oil and various chemicals and increases the life of the shoe. Dow Corning Corp.

33. Safety Awards: Brochure describes and illustrates trophies, plaques, pins, etc. How the firm's designing department can present designs to assist you in your incentive program is explained. Southern California Trophy Co.

34. Safety Signs: Bulletin illustrates a completely new type of sign which gives two safety messages within one space. The animations are achieved by the use of countless plastic linear lenses which separate the multiple images laminated behind them, permitting a different safety message to change continuously your angle of view. Irwin-Hodson Co.

35. Dry Chemical Extinguishers: Catalog illustrates a line of dry chemical fire extinguishers. Gives complete specifications and describes 6, 12, 20 and 30 lb. models with 35 foot range, and push-button release. Accessories such as refills and brackets also shown. Randolph Laboratories, Inc.

36. Bench Can: Specifications, uses, and advantages shown in bulletin of a machine bench can be located at the work bench for washing machine parts. Has a dasher which acts as a flame arrester. Protectoseal Co.

37. Ear Valve: Diagram shows how valve operates to take out unwanted noise, yet allows conversational tones to be heard. Bulletin also tells where valve can be used. Emphasizes comfort. Sigma Engineering Co.

38. Dyna-Switch: Bulletin describes a dyna-switch that prevents overloading of hoists and cranes. When load limit is exceeded the switch trips a sensitive micro-switch which may be connected to a warning bell or light. If the switch is connected into the motor, the overload automatically cuts motor out, and load must be returned to floor and surplus weight removed before pickup can be completed. W. C. Dillon & Co., Inc.

39. Ladders and Shoes: Line of steel-reinforced wood ladders shown in bulletin. Platform ladders, rolling ladders, step platforms, shelf ladders included. Specifications given and

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Get Osborn Safety Pliers . . . made of Osmolloy, the sturdy, long lived aluminum alloy that will flatten under impact, leaving dies unhurt. Thousands now in use. Write for literature!

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New Improved design now being made from 1" diam. round furniture tubing. Mounted on Swivel Brake Casters which allow the ladder to be rolled freely when no one is on it. When you step on the ladder the rubber cushioned legs rest on the floor and prevent rolling.

Made in 7 heights: — 18" 2 Step,
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All are made in 18", 20" or 24" width. Send for Circular No. 53-N and prices on these ladders and our full line of Wood Rolling Ladders.

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all ladders equipped with safety ladder shoes. Shoes, also available separately, are pictured and described. Dayton Safety Ladder Co.

40. Safety Hats and Welding Helmets: This bulletin shows a line of fiber glass plastic hats, caps and welding helmets to shield the wearer from falling objects, impact hazards and welding spatter. Featured are two styles of cap-and-helmet combinations. Jackson Products, Inc.

41. Cushioned Worker Footing: A heavy-duty cushioned microcell sponge rubber mat called "Airrug" is featured in this bulletin. This mat helps reduce worker fatigue, will not absorb water, is easily cleaned and has non-skid qualities. Bearfoot Airway Corp.

42. Swivel-Mounted Lights: Catalog illustrates a wide variety of "Localities" that are swivel-mounted for easy positioning as the work requires. Suitable models are included for benches, laboratories, machines, desks, etc. Fostoria Pressed Steel Corp.

43. Eye Protective Equipment: A revised catalog of "Eye Savers" products contains many new developments among them are new ideas in goggle ventilation. They are goggle covers and made of soft vinyl plastic, that can also be used in welding goggles. Other new developments are safety spectacles with high impact protection, and "clip-ons" that can be worn over prescription glasses. Watchmoke Optical Co.

44. Oil Absorbent: Circular describes use of all-purpose, fire resistant oil absorbent by many industries in reducing slippery floor and fire hazards. Includes instructions for use. Wyandotte Chemicals Corp.

45. Job Fitted Gloves: A detailed colored catalog is offered by manufacturer listing usages, types and costs of job-fitted gloves. The gloves are job-fitted for specific application to provide greater protection and longer wear. Edmont Mfg. Co.

46. Safety Mirrors for Industrial Use: Safety mirrors are designed for use in factories and warehouses where blind corners, cross aisle intersections, entrances and exits present a safety problem because of traffic accidents. Bulletin gives full details. Lester M. Brossard Co.

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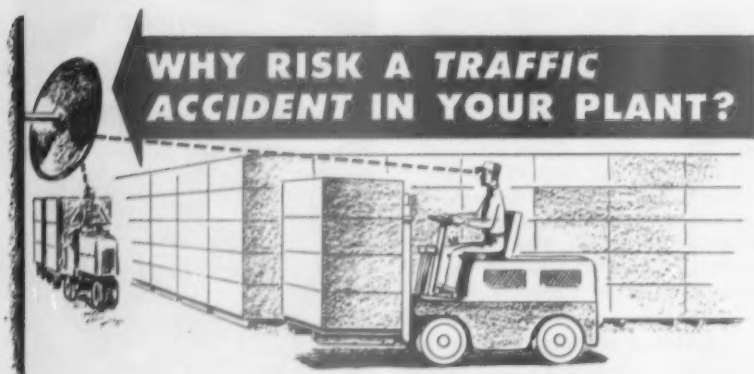
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Please send booklet telling WHAT PLANTS HAVE ACCOMPLISHED WITH VISION SCREENING.

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Color in Safety

—From page 23

tered signs. Some of these have been recognized by the International Labor Organization. In general, square signs with a heavy red border and appropriate symbols are used for extreme hazards, live wires, inflammable substances, explosives, chemicals, poisons, and radioactive materials. Triangular signs, using yellow, refer to caution and are located on or near moving parts, hot surfaces, apparatus under pressure, and obstructions. Round signs, using green, refer to safety and first aid devices. The idea is basically sound, for word signs lack the emphasis of symbols and all too often are not read, or, if read, are soon forgotten.

Safety is a world problem and a common ground of international interest and cooperation. What Socony-Vacuum Italiana has accomplished in its country is outstanding. That so many of its elements are derived from America is perhaps flattering. But that Mr. Romano and his associates have shown so much initiative of their own, adding a skilled Italian touch, returns the compliment in grand fashion indeed.

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R. J. DUGAS, rotary derrickman, The Texas Company, St. Martinville, La.—electric shock.

ALEX MILLER, roustabout, Brown & Root, Inc., Grand Isle, La.—drowning.

A/2C EUGENE F. ST. CLAIR, JR., airman, United States Air Force, Elgin Air Force Base, Fla.—drowning. Certificate of Assistance to A/3C BOBBY L. DOSSETT.

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A one-half minute oscillation with the McDowell Relax-A-Lator provides an invigorating pickup for everyone—particularly those suffering from fatigue or tired feet and legs. The result: increased efficiency, more production, fewer accidents.

Write for details

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PITTSBURGH 9, PENNSYLVANIA



Be Sure of Your Shackles

—From page 33

9. Look for the trade mark or color identification of a reputable manufacturer. This is your best guarantee if the other rules are followed.

Shackle Maintenance

1. Watch for any changes in shape or dimensions that indicate the shackle has been overloaded or made of improper steel.

2. Check the pin frequently for signs of bending or excessive wear.

3. Check the cotter pin for excessive rust or the possibility of its slipping out.

4. Look for cracks or elongations around the pin holes.

5. Lubricate the threads of threaded pins occasionally to prevent rust.

Safety Precautions

1. Select a shackle with a safe working load rating equal to or stronger than that of the wire rope, chain, and block with which it is used, as well as the load it is supposed to lift.

2. Avoid shock loads and side pull.

3. Use as much of the bearing surface of both pin and bow as possible. This will increase the elastic limit and retard excessive wear at points of contact.

4. Don't use a substitute pin unless it comes from a reputable shackle manufacturer or unless you are positive it is as strong as the original pin.

5. Follow normal safety rules and be safe rather than sorry.

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The sun's rays, reflected from a pool of water on an adjoining roof, passed through an office window, concentrating on a box of payroll records.

Heat from the resulting fire set off a sprinkler-head, automatically transmitting a waterflow alarm to the central station. Damage was slight.

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Rubber Frame Goggles For Chemical Fumes and Toxic Dust



Here are two rubber frame goggles. The No. 30385 is especially adapted for complete eye protection against all forms of chemical fumes and toxic dust. It is a favorite for dusting crops and underwater work. The No. 30386, shown above, can be used for practically every type of work involving eye hazards.

Both have the following special features:

- ♦ Frame is of high quality, soft pliable rubber for utmost comfort and wraps around the face.
- ♦ 50 x 60 m/m removable lenses: your choice of shatterproof laminated or Flat Hardened. Lens snaps into grooved rubber.
- ♦ Jumbo size. Large enough to accommodate personal prescription glasses.
- ♦ Rubber head band has snap-on glove fasteners.
- ♦ Offered in two styles: 30385—Without vents. Waterproof. Clear glass lenses. 30386—With screen vents. 50 x 60 m/m lenses, clear glass. See catalog No. 32 for complete description and available lenses.

Many industrial workers prefer these rubber goggles because they are compact, easily carried in the pocket.

If your dealer does not have these goggles in stock, he can order them for you. Or if you prefer, you can write us direct, either ordering a few pair for test purposes or requesting additional information.

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American Industrial Safety Equipment Co.	127	Lehigh Safety Shoe Co.	3	American Optical Co.	111-B.C.	Littell, F. J. Machine Co.	124	American Tel. & Tel. Co.	91			Ansul Chemical Co.	5	M		Armour & Co.	85	McAn, Thom, Safety Shoes	43	Associated Suppliers Co.	112	McDonald, B. F., Co.	117			McDowell Mfg. Co.	147	A		McGill Mfg. Co., Inc.	128	Banite Co.	120	Medical Supply Co.	117-131-134	Bausch & Lomb Optical Co.	79	Merrill Brothers	125	Bean, John Div.	98	Milburn Co.	129	Bemis Brothers Bag Co.	105	Mine Safety Appliance Co.	I.F.C.	Benson & Assoc.	133	Modern Machine Tool Co.	116	Bergman Safety Spanner Co.	131			Beryllium Corp.	76	N		Bone-Dry Shoe Mfg. Co.	147	National Safety Congress & Exposition	60	Bradley Washfountain Co.	96	National Safety Council	99-100-101-102	Breck, John, H., Co.	53			Brossard, Lester L., Co.	146	O		Brulin & Co., Inc.	108	Onox, Inc.	122	Buffalo Fire Appliance Corp.	84	Osborn Mfg. Co.	145	Bullard, E. D., Co.	89	Oscillatro Relax-A-Later Div.	147			Oxy-Catalyst, Inc.	78	B				California Texas Oil Co.	148	P		Cambridge Rubber Co.	11	Patent Scaffolding Co., Inc.	107	Canfield Oil Co.	132	Pittsburgh Plate Glass Co.	65	Carhoff Co.	97	Practical Manufacturing Co.	70	Chart-Pak Co.	135	Prairie State Products Co.	96	Chesebrough Mfg. Co.	97	Pulmosan Safety Equipment Co.	115	Chicago Eye Shield Co.	I.B.C.	Pyrene-C-O-Two	77	Chicago Hardware Foundry Co.	125			Chicago Watchclock Co.	110	R		Colorado Fuel & Iron Corp.	87	Randolph Laboratories, Inc.	88	Coppus Engineering Co.	45	Ready Made Sign Co.	82	Cotterman, I. D.	145	Reece Wooden Sole Shoe Co.	113	C-O-Two-Pyrene	77	Rockwood Sprinkler Co.	71	Cover, H. S.	124	Rose Mfg. Co.	115					C		S		Davenport, A. C., & Son, Inc.	106	Safe-Lad Co.	121	Dillon, W. C., Co.	123	Safety Box Toe Co.	51	Dolge, C. B., Co.	134	Safety First Supply Co.	126	Dow-Corning Corp.	75	Safety Tower Ladder Co.	130-134	DuPont, E. I. de Nemours & Co.	104	Sargent-Sowell, Inc.	72			Sawyer, H. M., & Son Co.	126	D		Schrader, A., & Son	59	Eagle-Picher Co.	95	Scott Aviation Corp.	12-13	Economy Engineering Co.	118	Sellstrom Mfg. Co.	147	Ellwood Safety Appliance Co.	119	Sigma Engineering So.	148	Employers Mutual of Wausau	73	Silicone Paper Co. of America	9			Silver Troy Co.	135	E		Singer Glove Co.	131	Federal Sign & Signal Corp.	106	Speedi-Dri Corp.	56	Finnell Systems, Inc.	136	Standard Industrial Products Co.	67	Fostoria Pressed Steel Corp.	119	Standard Safety Equipment Co.	50	Frost Paint & Oil Corp.	128	Standard Signs, Inc.	145			Stephenson Corp.	132	F		Stonehouse Signs, Inc.	41	General Split Corp.	57	Sugar Beet Products	47	Gro-Cord Rubber Co.	15	Surety Rubber Co.	116					G		T		Haws Drinking Faucet Co.	127	Taylor, Halsey W., Co.	123	Hild Floor Machine Co.	109	Taylor, S. G., Chain Co.	93	Hood Rubber Co.	62	Torit Mfg. Co.	130	Huntington Laboratories, Inc.	55	Tower, A. J., Co.	114	Hy-Test Div., International Shoe Co.	16	Trumbull Mfg. Co.	104					H		U		Industrial Gloves Co.	120	U. S. Safety Service Co.	69	Industrial Products Co.	114	U. S. Treasury	66	Iron Age, Div., H. Childs & Co., Inc.	7					V		I		Vari-Products Co.	61	Jackson Products Inc.	49			Johnson Ladder Shoe Co.	135	W		Junkin Safety Appliance Co.	129	Washington Products Co.	113			Watchmoke Optical Co., Inc.	63	J		West Disinfecting Co.	83	Keystone View Co.	146	Wickwire Spencer Steel Div.	87	Kidde, Walter & Co.	81	Wiesman Mfg. Co.	145			Wilkins Co., Inc.	86			Willson Products, Inc.	1
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Armour & Co.	85	McAn, Thom, Safety Shoes	43	Associated Suppliers Co.	112	McDonald, B. F., Co.	117			McDowell Mfg. Co.	147	A		McGill Mfg. Co., Inc.	128	Banite Co.	120	Medical Supply Co.	117-131-134	Bausch & Lomb Optical Co.	79	Merrill Brothers	125	Bean, John Div.	98	Milburn Co.	129	Bemis Brothers Bag Co.	105	Mine Safety Appliance Co.	I.F.C.	Benson & Assoc.	133	Modern Machine Tool Co.	116	Bergman Safety Spanner Co.	131			Beryllium Corp.	76	N		Bone-Dry Shoe Mfg. Co.	147	National Safety Congress & Exposition	60	Bradley Washfountain Co.	96	National Safety Council	99-100-101-102	Breck, John, H., Co.	53			Brossard, Lester L., Co.	146	O		Brulin & Co., Inc.	108	Onox, Inc.	122	Buffalo Fire Appliance Corp.	84	Osborn Mfg. Co.	145	Bullard, E. D., Co.	89	Oscillatro Relax-A-Later Div.	147			Oxy-Catalyst, Inc.	78	B				California Texas Oil Co.	148	P		Cambridge Rubber Co.	11	Patent Scaffolding Co., Inc.	107	Canfield Oil Co.	132	Pittsburgh Plate Glass Co.	65	Carhoff Co.	97	Practical Manufacturing Co.	70	Chart-Pak Co.	135	Prairie State Products Co.	96	Chesebrough Mfg. Co.	97	Pulmosan Safety Equipment Co.	115	Chicago Eye Shield Co.	I.B.C.	Pyrene-C-O-Two	77	Chicago Hardware Foundry Co.	125			Chicago Watchclock Co.	110	R		Colorado Fuel & Iron Corp.	87	Randolph Laboratories, Inc.	88	Coppus Engineering Co.	45	Ready Made Sign Co.	82	Cotterman, I. D.	145	Reece Wooden Sole Shoe Co.	113	C-O-Two-Pyrene	77	Rockwood Sprinkler Co.	71	Cover, H. S.	124	Rose Mfg. Co.	115					C		S		Davenport, A. C., & Son, Inc.	106	Safe-Lad Co.	121	Dillon, W. C., Co.	123	Safety Box Toe Co.	51	Dolge, C. B., Co.	134	Safety First Supply Co.	126	Dow-Corning Corp.	75	Safety Tower Ladder Co.	130-134	DuPont, E. I. de Nemours & Co.	104	Sargent-Sowell, Inc.	72			Sawyer, H. M., & Son Co.	126	D		Schrader, A., & Son	59	Eagle-Picher Co.	95	Scott Aviation Corp.	12-13	Economy Engineering Co.	118	Sellstrom Mfg. Co.	147	Ellwood Safety Appliance Co.	119	Sigma Engineering So.	148	Employers Mutual of Wausau	73	Silicone Paper Co. of America	9			Silver Troy Co.	135	E		Singer Glove Co.	131	Federal Sign & Signal Corp.	106	Speedi-Dri Corp.	56	Finnell Systems, Inc.	136	Standard Industrial Products Co.	67	Fostoria Pressed Steel Corp.	119	Standard Safety Equipment Co.	50	Frost Paint & Oil Corp.	128	Standard Signs, Inc.	145			Stephenson Corp.	132	F		Stonehouse Signs, Inc.	41	General Split Corp.	57	Sugar Beet Products	47	Gro-Cord Rubber Co.	15	Surety Rubber Co.	116					G		T		Haws Drinking Faucet Co.	127	Taylor, Halsey W., Co.	123	Hild Floor Machine Co.	109	Taylor, S. G., Chain Co.	93	Hood Rubber Co.	62	Torit Mfg. Co.	130	Huntington Laboratories, Inc.	55	Tower, A. J., Co.	114	Hy-Test Div., International Shoe Co.	16	Trumbull Mfg. Co.	104					H		U		Industrial Gloves Co.	120	U. S. Safety Service Co.	69	Industrial Products Co.	114	U. S. Treasury	66	Iron Age, Div., H. Childs & Co., Inc.	7					V		I		Vari-Products Co.	61	Jackson Products Inc.	49			Johnson Ladder Shoe Co.	135	W		Junkin Safety Appliance Co.	129	Washington Products Co.	113			Watchmoke Optical Co., Inc.	63	J		West Disinfecting Co.	83	Keystone View Co.	146	Wickwire Spencer Steel Div.	87	Kidde, Walter & Co.	81	Wiesman Mfg. Co.	145			Wilkins Co., Inc.	86			Willson Products, Inc.	1																
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Want More Information?

... the Reader Service postcard will get it for you FAST!

Here's how it works—

Printed below are two identical Reader Service postcards—the bottom one for your use; the top one for later readers of this issue. The numbers listed on each card are keyed to product advertised and the new safety equipment and trade publications described on

pages 137 through 145. Just circle the items you want to know more about, and we will ask the manufacturer to send you full information without obligation. Both cards are perforated for easy removal, and no postage is required.

New Safety Equipment

Products featured in this section have been carefully reviewed by Council engineers so as to bring you only what's new and reliable in the safety field. Only new safety and health products, or new-worthy improvements in existing equipment are eligible for listing.

Trade Publications

Here's a wealth of helpful trade literature—catalogs, spec sheets, booklets, brochures—that will help you compare before you buy. Whether you are in the market now, or think you may be at a later date, you'll want these valuable references in your safety equipment data file.

Products Advertised

As you read through this issue of the NEWS, you will find advertisements describing equipment that may help you solve some of your accident problems. Instead of making a "mental note," make sure you get full information by circling the corresponding page number on the Reader Service postcard. The letters L, R, T and B locate the ads on the page—left, right, top and bottom. IFC—inside front cover; IBC—inside back cover; BC—back cover.

IMPORTANT—Be sure to fill in your name, organization and address in the space provided on this side of the postcard.

National Safety News, September, 1955

Please send me more information on the items circled below:

SEPTEMBER, 1955
(Good until December 31, 1955)

NEW SAFETY EQUIPMENT SECTION:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

TRADE PUBLICATIONS SECTION:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

PRODUCTS ADVERTISED:

IFC	1	3	5	7	9	11	13	15	16	41	43
45	47	49	50	51	53	54	56	58	59	61	63
62	63	65	67	69	70	71	72	73	74	75	76
77	78	79	80	81	82	83	84	85	86	87	88
89	92	93	94	95	96T	96B	97T	97B	98	105	104T
104B	105	106T	106B	107	108	109	110	111	112	113T	113B
114T	114B	115T	115B	116T	116B	117L	117R	118	119T	119B	120T
120B	121	122	123T	123B	124T	124B	125R	125L	126L	126R	127T
127B	128T	128B	129L	129R	130R	130L	131L	131RT	131RB	132L	132R
133	134LT	134LB	134R	135LB	135RT	135RB	136	145LT	145LB	145RT	145RB
146T	146B	147LT	147LB	147R	148T	148B	IBC	BC			

NAME.....

POSITION.....

COMPANY.....

ADDRESS.....

CITY & STATE.....

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62	63	65	67	69	70	71	72	73	74	75	76
77	78	79	80	81	82	83	84	85	86	87	88
89	92	93	94	95	96T	96B	97T	97B	98	105	104T
104B	105	106T	106B	107	108	109	110	111	112	113T	113B
114T	114B	115T	115B	116T	116B	117L	117R	118	119T	119B	120T
120B	121	122	123T	123B	124T	124B	125R	125L	126L	126R	127T
127B	128T	128B	129L	129R	130R	130L	131L	131RT	131RB	132L	132R
133	134LT	134LB	134R	135LB	135RT	135RB	136	145LT	145LB	145RT	145RB
146T	146B	147LT	147LB	147R	148T	148B	IBC	BC			

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The advertising pages of the News

. . . your guide to reliable suppliers of worthwhile safety equipment

The advertising policy of the NEWS requires that all equipment and products meet established codes and standards, have the approval of recognized testing agencies, or have proven their value through actual use in industry. Council engineers and technicians screen every

advertisement to make sure that product description is accurate, and performance claims verified by reliable sources. It should not be construed, however, that products advertised are approved or endorsed by the National Safety Council.

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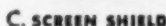
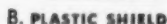
425 NORTH MICHIGAN AVENUE
CHICAGO 11, ILLINOIS

Before you mail your
Reader Service
postcard . . .

TAKE ANOTHER LOOK AT

- the ADVERTISING pages
- the NEW SAFETY EQUIPMENT section
- the TRADE PUBLICATION section

Make sure all the items you want to know more about are circled . . . check to make sure your name, organization, and address are printed on the reverse side of the postcard . . . THEN mail it today.



Here's a way for you to save money on head, face, and eye protection equipment. Now you don't have to buy duplicate headgears or hats. If you need a helmet (A) and face shield (B), buy them along with only one headgear (1) or hard hat (2).

Items **A**, **B** and **C** can be used with either items **1** or **2** illustrated above so you can make six different combinations. The old-fashioned way you would buy a helmet and headgear, a shield and headgear, and so on until you had six combinations (twelve items) to do the same thing these five separate pieces will do.

The New CESCO Mounting has an easily adjusted tension spring to compensate for weight differences. Tilting mechanism permits easy raising and lowering. Wedge shaped brackets slide apart or together quickly, and lock securely.

Save buying extra parts... save money.
On your next order specify CESCO interchangeable
helmets and face shields. They're—
"Right... before your Eyes."



CESCO FOR SAFETY



Eye Protection



This

NEW FLEXIBLE MASK GOGGLE

Offers Excellent
Impact Resistance!

**LIGHT...COMFORTABLE
INEXPENSIVE**

Here's our new moderately-priced No. 482 Flexible Goggle of the single aperture mask type. It's light in weight — fits the face snugly and comfortably with a cushion-like effect. Extra wide and with ample clearance, it can be worn over most types of personal glasses or Safety R glasses. The interchangeable one-piece acetate lens is *optically correct**, and offers superior resistance to impact.

While made of a soft plastic material for flexibility, frame is solid and fits facial contours closely for full protection. There is an unusually wide field of vision for worker comfort, safety and efficiency.

Lens is easily removed and replaced and is available either clear or in green acetate. Elastic headbands are easily adjustable.

Goggle can be adapted for use as a chemical goggle by eliminating perforations in frame and fitting with vinylite lens and adjustable plastic headband. It is resistant to acids and alkalis. When ordering for chemical use please order as No. 484 or 485.



No. 482 Clear Frame, Clear or Green Lens

No. 483 Green Frame, Clear or Green Lens

No. 484 Chemical Goggle, Clear Frame, Clear or Green Lens

No. 485 Chemical Goggle, Green Frame, Clear or Green Lens

RECOMMENDED USES:

For protection against flying particles striking from any direction, on such operations as babbitting, chipping, cutting rivets, light grinding, on hand or machine tool work, or in occupations where spark or explosion hazards are present.

T.M. Reg. by American Optical Company

American Optical



SAFETY PRODUCTS DIVISION

*The AO trademark, and the engineering and research in back of the trademark, are your assurance of optically correct eyewear with every AO goggle.

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES